

ESTTA Tracking number: **ESTTA562413**Filing date: **10/01/2013**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

Proceeding	92054629
Party	Plaintiff Sheltered Wings, Inc.
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Date	10/01/2013
Attachments	2013-10-01 FINAL Petitioner's Notice of Filing.pdf(108254 bytes) Hamilton_9-10-13_Exhibit_12 (Part 1).pdf(3958828 bytes) Hamilton_9-10-13_Exhibit_12 (Part 2).pdf(5019348 bytes) Hamilton_9-10-13_Exhibit_13 (Part 1).pdf(4083465 bytes) Hamilton_9-10-13_Exhibit_13 (Part 2).pdf(3455048 bytes) Hamilton_9-10-13_Exhibit_14.PDF(231707 bytes) Hamilton_9-10-13_Exhibit_15_CONFIDENTIAL FILED UNDER SEAL.PDF(1082372 bytes) Hamilton_9-10-13_Exhibit_16.PDF(525558 bytes) Hamilton_9-10-13_Exhibit_17.PDF(443225 bytes) Hamilton_9-10-13_Exhibit_18.PDF(944526 bytes) Hamilton_9-10-13_Exhibit_19.PDF(1535681 bytes) Hamilton_9-10-13_Exhibit_20.PDF(422650 bytes) Hamilton_9-10-13_Exhibit_21.PDF(858523 bytes) Hamilton_9-10-13_Exhibit_22.PDF(1800249 bytes) Hamilton_9-10-13_Exhibit_23.PDF(250910 bytes) Hamilton_9-10-13_Exhibit_24.PDF(91944 bytes) Hamilton_9-10-13_Exhibit_25.PDF(221481 bytes) Hamilton_9-10-13_Exhibit_26.PDF(117688 bytes) Hamilton_9-10-13_Exhibit_27.PDF(100916 bytes) Hamilton_9-10-13_Exhibit_28.PDF(77574 bytes) Hamilton_9-10-13_Exhibit_29.PDF(91497 bytes) Hamilton_9-10-13_Exhibit_30.PDF(736131 bytes) Hamilton_9-10-13_Exhibit_31.PDF(160093 bytes) Hamilton_9-10-13_Exhibit_32.PDF(104630 bytes) Hamilton_9-10-13_Exhibit_33.PDF(292426 bytes) Hamilton_9-10-13_Exhibit_34.PDF(263189 bytes) Hamilton_9-10-13_Exhibit_35 (Part 1).pdf(3401173 bytes) Hamilton_9-10-13_Exhibit_35 (Part 2).pdf(4817272 bytes)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD**

In re Registration No. 3,904,929)	
)	
SHELTERED WINGS, INC.)	
)	
Petitioner,)	Cancellation No. 92054629
)	
v.)	
)	
WOHALI OUTDOORS, LLC)	
)	
Respondent.)	

PETITIONER'S NOTICE OF FILING

In accordance with 37 C.F.R. §§ 2.123 and 2.125, please take notice that the Petitioner is hereby filing and serving the following trial testimony transcripts and exhibits:

Testimony of Daniel C. Hamilton, President and Founder of Eagle Optics:

1. The September 10, 2013 trial testimony of Daniel C. Hamilton [with confidential portions redacted], signed errata sheet, and exhibits 1 through 14 and 16 through 35;
2. The confidential portions of the September 10, 2013 trial testimony of Daniel C. Hamilton and confidential exhibit 15;

Testimony of Benjamin D. Lizdas, Sales Manager of Eagle Optics:

3. The September 10, 2013 trial testimony of Benjamin D. Lizdas [with confidential portions redacted], signed errata sheet, and exhibits 36 through 47;
4. The confidential portions of the September 10, 2013 trial testimony of Benjamin D. Lizdas, and confidential exhibit 48.

The exhibits and testimony designated confidential are designated as “Trade Secret/Commercially Sensitive” material under the parties’ January 8, 2013 Stipulated Protective Order.

Respectfully submitted,

Date: October 1, 2013

By: Jennifer L. Gregor/
James D. Peterson
Jennifer L. Gregor
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Attorneys for Petitioner, Sheltered Wings, Inc.

CERTIFICATE OF SERVICE

I hereby certify that a true and complete copy of the foregoing Notice of Filing and testimony transcripts referenced above were served by email and Federal Express overnight courier on October 1, 2013, upon the following:

Steven M. Harris (steve.harris@1926blaw.com)
S. Max Harris (max.harris@1926blaw.com)
DOYLE HARRIS DAVIS & HAUGHEY
1350 South Boulder, Suite 700
Tulsa, OK 74119

I further certify that all of the exhibits referenced above were served in electronic format to Messrs. Harris and Harris on a compact disc via Federal Express overnight on October 1, 2013.

I also certify that I cause a true and complete copy of all the foregoing documents to be filed with the Board's ESTTA system on October 1, 2013.

Dated: October 1, 2013

/Jennifer L. Gregor/
Jennifer L. Gregor

EAGLE OPTICS®

OPTIC OUTFITTERS™

Binoculars
Spotting Scopes
Monoculars
Tripods
Digiscoping
And More

Hamilton
EXHIBIT NO. 12
9-10-13 RPTRCH
For the Record, Inc.
(608) 833-0392



Vol. 23 - No. 1

SW02760

Valued Customer,

If you've been looking for the best selection in optics, then you've come to the right place. When it comes to outfitting you with the finest in optics, our Eagle Optics staff is here for you with professional expertise, unmatched service and support, and unexcelled product selection.

We invite you to browse through our 2010 catalog selection of quality field-tested binoculars, spotting scopes, tripods, monoculars, and accessories. You can also visit us at www.eagleoptics.com for complete online information and purchasing options.

For personalized service, please call us at 1-800-289-1132.

The Staff of Eagle Optics

About the cover photo: The Bald Eagle was digiscoped with an 82 mm Leica Televid spotting scope by our sales manager, Ben Uzdas, in Homer, Alaska. For more information on digiscoping, see page 39 of our catalog.

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The EAGLE OPTICS Difference



Friendly, Knowledgeable Service

At Eagle Optics we know details matter, especially when you are investing in fine optical instruments. That's why you can call our professional staff whenever you need to compare, contrast, or clarify information—no matter how simple or specialized the question! E-mail your questions or comments to info@eagleoptics.com, or call 1-800-289-1132.



Fast FedEx Ground Shipping

Eagle Optics is proud to offer our customers FedEx Ground Shipping to the 48 contiguous states! You can expect in-stock orders to ship within one business day of receipt. Please allow 20 working days for orders paid with a personal check.



Our 30 Day Exchange / Return Policy

Your absolute satisfaction matters to us! If you're not satisfied with your purchase, for any reason, simply return the product within 30 days for an exchange or full product refund. Customers are responsible for return shipping costs. Please return the product to Eagle Optics in new condition, with all the original packaging, and a copy of the Eagle Optics invoice.



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Eagle Optics guarantees that you can shop online with peace of mind. Our web site is secured by QuickSSL 128-bit encryption for the highest possible level of online security. This means that your online transactions with Eagle Optics remain private and secure.

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Since the beginning, putting customers first has been the top priority of Eagle Optics. Today, it's the driving force behind our growing online community. Explore www.eagleoptics.com today, visit it frequently in the future, and let us know what you think.



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- News about birds, festivals, and conservation efforts
- Special promotions
- Closeout deals
- Contest details

Eagle's Nest

Visit the Eagle's Nest for news about a wide variety of sports optics and answers from our Eagle Optics staff.

- Eagle Optics Blog for birding new, products, and tips
- Binocular Reviews
- Mike's Birding & Digiscoping Blog
- Birding Binocular Q & A

Inside this Catalog



Look for this icon and find new products quickly, then read a brief review of the series. You'll find the specifications for binoculars, spotting scopes, monoculars, and rangefinders listed in a chart like the one shown here.

Binocular Model	
Eye Relief	19.5 mm
Close Focus	5'
Field of View (1000 Yards)	336'
Height	5.75"
Width	5.1"
Weight	23.6 oz



Waterproof optics are sealed with O-rings to prevent moisture, dust, and debris from getting inside the optical barrel. Fogproof optics are filled with nitrogen or argon gas to inhibit internal fogging.

Do optics terms confuse you?

Turn to pages 24-25 for helpful, informative explanations about the world of optics.



SW02762

Atlas Optics Binoculars

Atlas Optics Binoculars

Atlas Optics unlimited, unconditional lifetime warranty.

Intrepid ED

The Atlas Optics Intrepid ED shows you details you've never discovered before. With the benefits of extra-low dispersion glass and fully multi-coated lenses for bright, high-quality images, the Intrepid ED is sure to please wherever the trail takes you. An exceptionally wide field of view makes you feel like you just stepped into the action, and the ergonomically pleasing open-hinge design allows you to easily follow wildlife for a long time. This is one binocular sure to carry its weight for a long time.

Intrepid ED Features: Extra-low Dispersion (ED) glass, fully multi-coated, phase corrected, rubber armor, magnesium alloy body, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), SeeClear™ exterior lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Sky King


Are you looking for high-flying performance at a budget-conscious price? Look no further than the Atlas Optics Sky King binocular. The Sky King will amaze you with its wide field of view, eye-popping brightness, and impressive color delivery.


Sky King Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (argon gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.


Radian

Surrounding you with the radiant details essential for discovery, the Atlas Optics Radian features all the desired optical features needed to deliver impressive light transmission and color resolution. The wide field of view will impress you with edge-to-edge sharpness found in more expensive binoculars.

Radian Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, twist-up eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (argon gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

 **Intrepid ED**
42 mm

 **Sky King**
42 mm

 **Radian**
42 mm

	Intrepid ED	
	8x42	10x42
Eye Relief	17 mm	15 mm
Close Focus	6.5'	6.5'
Field of View (1000 yards)	420'	342'
Height	6.5"	6.5"
Width	4.9"	4.9"
Weight	26.6 oz	26.6 oz

	Sky King	
	8x42	10x42
Eye Relief	17 mm	15 mm
Close Focus	6.0'	6.0'
Field of View (1000 yards)	365'	320'
Height	5.5"	5.5"
Width	4.5"	4.5"
Weight	26.7 oz	26.7 oz

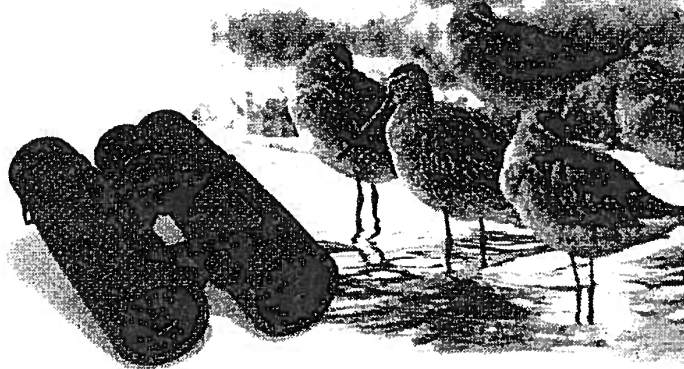
	Radian	
	8x42	10x42
Eye Relief	17.5 mm	15.5 mm
Close Focus	6.5'	6.5'
Field of View (1000 yards)	325'	305'
Height	5.4"	5.4"
Width	5.8"	5.0"
Weight	23.0 oz	23.0 oz

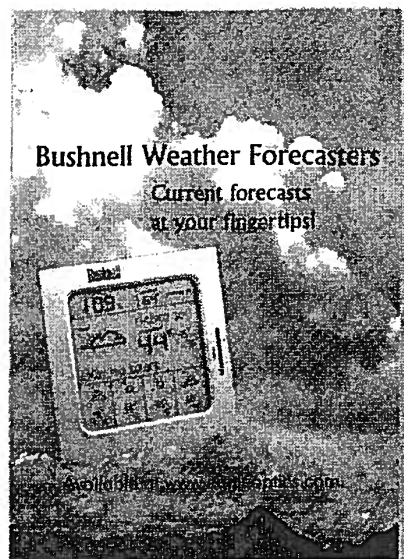
Introducing the Intrepid ED

"The Atlas Optics Intrepid ED is the best!
From birding to boating to astronomy, these
top-notch images are clear and bright!"



— Bill, SC





Bushnell Binoculars

Bushnell limited lifetime warranty.

Elite ED

With over 60 years of optical expertise at their disposal, the Bushnell engineers pack a significant performance upgrade into the Elite ED binocular. Already boasting a light transmission of 99.7 percent, the addition of ED glass delivers amazing color resolution and contrast to enhance the wonderfully bright views. Rainguard® provides the benefit of water-repellent protection to make sure wet weather won't interfere with your view.

Elite ED Features: Extra-low Dispersion (ED) glass, fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, magnesium body, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas), Rainguard® exterior lens coating. Included: Rainguard, tethered objective lens covers, neck strap, case.

Elite Custom Compact

Bushnell's best compact will amaze you as soon as you see the brilliant, crisp images the Elite 7x26 delivers. Take the Elite Custom Compact to the theater or on vacation; the more you use it, the more you will appreciate its excellent performance.

Elite Custom Compact Features: Fully multi-coated, BaK-4 prisms, rubber armor, twist-up eyecups, center focus, right eye diopter, Rainguard® exterior lens coating. Included: Eyepiece caps, neck strap, case.

Bushnell®

RAINGUARD® Lens Coating
Repels water and residue on outer glass surfaces.

Excursion EX

36 mm



42 mm



Marine

50 mm



Elite ED

42 mm



Elite Custom

26 mm



Excursion EX

An open hinge design and gel-filled thumb grips make the Excursion EX extra comfortable to hold. With an exceptionally wide field of view, the EX is a top choice for observing fast-moving action. Fully multi-coated and phase-corrected optics deliver sharp, bright views, no matter the time of day. Waterproof, fogproof construction protects the Excursion EX in all types of weather.

Excursion EX Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, multi-position eyecups, locking center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). Included: Rainguard, tethered objective lens covers, neck strap, case.

Marine Binocular

Always ready to withstand extreme weather conditions encountered on the water, Bushnell ingenuity also made the 7x50 Marine binocular able to float! This Marine also comes outfitted with a built-in 3-axis digital compass for a true heading.

Marine Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecups roll, individual focus, tripod adaptable, waterproof, fogproof (nitrogen gas). Included: Eyepiece caps, objective lens caps, neck strap, case, CR2 battery.

	Elite ED		Elite Compact	Excursion EX				Marine (Digital Compass)
	8x42	10x42	7x26	8x36	10x36	8x42	10x42	7x50
Eye Relief	19.5 mm	15.5 mm	16 mm	17.8 mm	15.6 mm	17.2 mm	15.5 mm	17.5 mm
Close Focus	8.0'	8.0'	7.0'	5.5'	5.5'	6.5'	6.5'	35.0'
Field of View (1000 Yards)	330°	314°	363°	426°	321°	414°	330°	340°
Height	180	180	3.5"	4.8"	4.8"	5.8"	5.8"	7.3"
Width	180	180	4.5"	4.5"	4.5"	4.8"	4.8"	7.8"
Weight	25.7 oz	26.1 oz	12.0 oz	21.5 oz	21.5 oz	22.1 oz	22.2 oz	37.8 oz

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Bushnell Binoculars

SW02764


Bushnell Binoculars

Bushnell®




Natureview Series

42 mm
Natureview
Roof Prism




Legend Ultra HD

36 mm
Roof Prism



42 mm
Natureview
Porro Prism



42 mm
Roof Prism

	Legend Ultra HD				Natureview Series		
	8x36	10x36	8x42	10x42	Roof Prisms	Porro Prism	
Eye Relief	15.4 mm	15.4 mm	17.2 mm	15.2 mm	17 mm	17 mm	19 mm
Close Focus	6.2'	6.2'	6.5'	6.5'	15.0'	15.0'	13.0'
Field of View (1000 Yards)	426'	341'	420'	340'	330'	315'	412'
Height	4.9"	4.9"	5.8"	5.5"	7.0"	7.0"	5.8"
Width	4.8"	4.8"	5.0"	5.0"	5.0"	5.0"	7.1"
Weight	28.6 oz	28.6 oz	22.4 oz	22.5 oz	23.0 oz	23.0 oz	26.0 oz

Legend Ultra HD

Redesigned for the ultimate viewing experience, the Legend Ultra HD binocular incorporates ED Prime glass for amazing color resolution and contrast. You will appreciate the minimized color fringing, distinct details in low light conditions, and lightweight magnesium framework. Rainguard water-repellent coating, soft-touch grips, and a locking diopter only further the enjoyment of this binocular.

Legend Ultra HD Features: Extra-low dispersion (ED) glass, fully multi-coated (Ultra Wide Band coatings), phase corrected, BaK-4 prisms, magnesium body, rubber armor, eyecups twist, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). Included: Binocular harness strap, neck strap, case.

Natureview

Just as its name implies, the Bushnell Natureview will lead you to success as you search for nature's treasures. The roof prism style offers BaK-4 prisms to optimize light transmission and fully multi-coated lenses to further increase its bright views. Along with twist-up eyecups, the lightweight Natureview is protected with waterproofing, fogproofing, and rubber armoring for reliability in all weather conditions. The classic Natureview porro prism binocular provides quality and a wide 412-foot field of view for following wildlife—all at an affordable price.

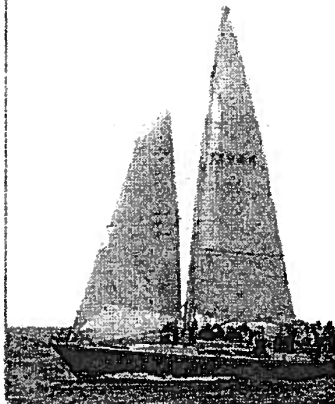
Natureview Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). Included: Rainguard, neck strap, case.



Using slingshots to shoot birds is a sport for Nicaraguan children. When they traded their slingshots for binoculars, Optics for the Tropics used a hands-on program to teach the kids about birds. This is one of many ways Optics for the Tropics works to change attitudes toward wildlife as it educates Caribbean and Latin American residents on how to safeguard bird populations and their habitats.

Eagle Optics is delighted to partner with Optics for the Tropics and support its vital mission by providing sport optics to researchers, guides, and children. Link to us from www.opticsforthetropics.org, and we will donate five percent of sales generated to help Optics for the Tropics continue its important efforts.

Image Stabilized Binoculars



Canon

12x36 IS II



10x42 L IS

Canon Image Stabilized Binoculars

	10x30	12x36	10x42	15x50	18x50
Eye Relief	14.5 mm	14.5 mm	16 mm	15 mm	15 mm
Close Focus	13.8'	19.7'	8.2'	19.7'	19.7'
Field of View (1000 Yards)	314'	262'	340'	236'	194'
Height	5.9"	6.9"	6.9"	7.6"	7.6"
Width	5.0"	5.0"	5.4"	6.0"	6.0"
Weight	22.2 oz	23.3 oz	36.8 oz	41.7 oz	41.7 oz

See Fujinon's Techno-Stabi on page 10.

Image Stabilized Binoculars

Eagle Optics Bino System Harness Strap

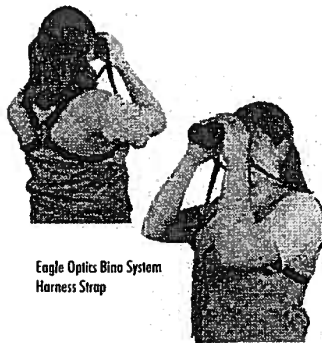
Lighten your load with the Bino-System harness strap. Slip the comfortable, adjustable strap over your shoulders and go! Slide binoculars and cameras up and out as needed.

Mini Link Strap

Eliminate neck strain and cut down on the swinging action of your binocular while keeping pace with wildlife. It is an easy-to-use, inexpensive solution for carrying binoculars.



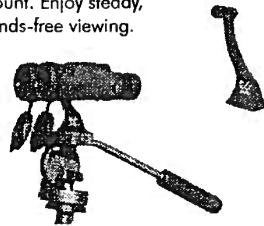
Mini Link Strap



Eagle Optics Bino System Harness Strap

Vortex Tripod Adapter

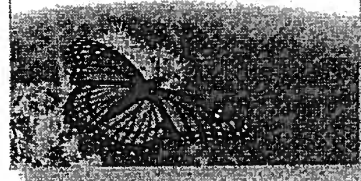
Use this tripod adapter to mount your binocular to any tripod or car window mount. Enjoy steady, hands-free viewing.



Crystal-Clear Views Cleaning Supplies

Call us at:
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Visit us online at:
www.eagleoptics.com/binoculars-accessories



Vortex Binoc-Loc

The Binoc-Loc keeps barrels perfectly positioned to your eyes for convenient viewing.



Vortex Binoc-Loc

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Binocular Accessories

SW02766

Eagle Optics Binoculars

Eagle Optics Binoculars

Eagle Optics warranty varies with the binocular model.

Ranger SRT

Our customers know they can count on the Ranger SRT binocular to meet high-performance expectations. The Ranger is especially favored for its superior edge-to-edge sharpness, light weight, durable body, and affordable price. The soft rubber, multi-position eyecups, and long eye relief guarantee comfortable viewing during extended use.

Customers value the Ranger's rich color details, pleasing field of view, close focus, and Platinum Protection lifetime warranty. See for yourself why our customers love taking the Ranger SRT on a short hike or around the world.

Ranger SRT Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case. **Eagle Optics Platinum Protection lifetime warranty.**

RANGER
BINOCULARS

"The Ranger made both our Favorites and our Best Buy lists. It is really a wonderful glass to use in the field, and backed with an excellent warranty from Eagle Optics."

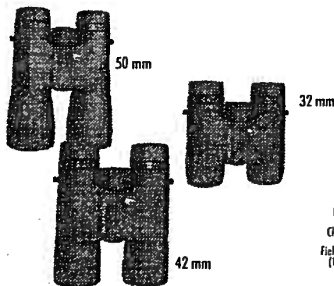
— Bird-Watcher's Digest



Sandhills, swallowtails, snow geese...setting the standard for nature lovers. See for yourself!



Ranger SRT
10x42



	Ranger SRT Series					
	6x32	8x32	8x42	10x42	10x50	12x50
Eye Relief	19.5 mm	16 mm	19.5 mm	16 mm	20 mm	15.5 mm
Close Focus	3'	3'	5.2'	5.2'	8'	8'
Field of View (1000 Yards)	409'	393'	341'	314'	262'	251'
Height	4.9"	4.9"	5.75"	5.8"	6.7"	6.7"
Width	4.8"	4.8"	5.1"	5.1"	5.2"	5.2"
Weight	19.4 oz	19.2 oz	21.8 oz	21.6 oz	26.2 oz	25.8 oz

Denali

The Denali's solid chassis is built to keep pace with the avid outdoor explorer. Weighing only 21.9 ounces, the Denali is easy to carry and comfortable to use when scanning for long periods. Don't worry about rain or temperature—the Denali is protected with waterproofing and fogproofing.

Denali Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Raven

Beginner or experienced, young or old, and everyone in between will appreciate the performance of the new Eagle Optics Raven binocular. The highly-regarded porro prism style of the Raven delivers an exceptionally wide field of view with sharp, rich three-dimensional views. Featuring twist-up eyecups and waterproof, fogproof construction, the Raven continues a classic tradition in a modern fashion.

Raven Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, carry case. **Eagle Optics Platinum Protection lifetime warranty.**

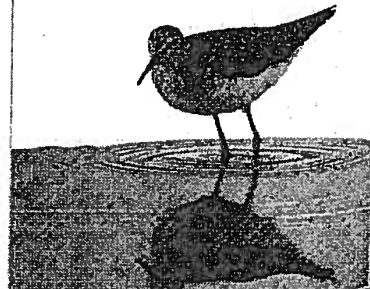
Optics For A Lifetime!

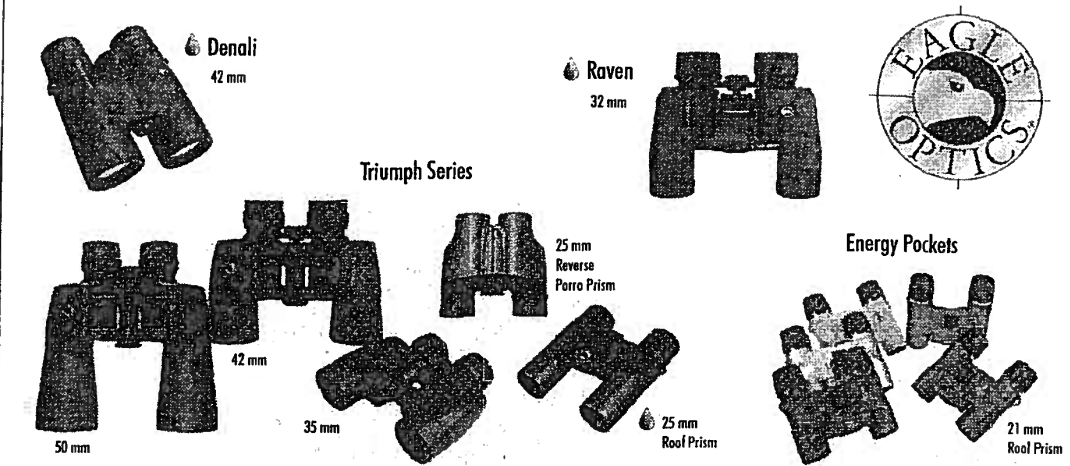
Reasonable Repair Cost—We Promise!

The Eagle Optics Platinum Protection warranty covers the Ranger, Denali, and Raven binoculars—forever.

If you ever need service, return the binocular to Eagle Optics for repair or replacement at no additional charge.

The Eagle Advantage Certificate is our promise to replace or repair your optics for no more than \$20.





	Denali		Raven		Triumph Series				Energy			
	8x42	10x42	6.5x32	8.5x32	Roof Prisms		Reverse Porro Prisms		Porro Prisms		8x21	
	18 mm	14.5 mm	28 mm	20 mm	8x25	10x25	8x25	10x25	7x35	8x42	10x50	8 mm
Eye Relief	18 mm	14.5 mm	28 mm	20 mm	15 mm	18 mm	18 mm	18 mm	12 mm	14 mm	13 mm	8 mm
Close Focus	7.0'	7.0'	15.0'	15.0'	6.6'	6.6'	8.2'	8.2'	12.8'	13.0'	22.0'	16.0'
Field of View (1000 ft.)	400'	318'	410'	390'	348'	341'	300'	262'	483'	430'	342'	383'
Height	5.4"	5.4"	4.5"	4.5"	4.5"	4.5"	3.8"	3.8"	4.75"	5.75"	7.5"	3.75"
Width	5.0"	5.0"	5.7"	5.7"	4.3"	4.3"	4.3"	4.3"	7.0"	7.1"	7.5"	2.3"
Weight	21.9 oz	21.9 oz	17.3 oz	17.3 oz	9.1 oz	9.1 oz	10.2 oz	10.2 oz	20.4 oz	22.8 oz	29.6 oz	6.0 oz

Triumph Series

Surprisingly bright and sharp, pleasantly lightweight, and economical describes the Eagle Optics full size Triumph. A great bang for your buck, the Triumph delivers an outstanding field of view. Multi-coated optics allow increased light transmission for illuminating views. Packed in a carrying case with lens caps and a neck strap, the Triumph arrives ready to head outdoors with you.

Small in size and weighing only 10.2 ounces, the 25 mm-porro prisms deliver big performance. Fully multi-coated optics supply bright views. Long eye relief makes these compacts easy for eyeglass wearers to use. The slim barrels and double-hinged design of the 25 mm roof prism is perfect for slipping in a pocket when you venture outside, or keeping handy to check out the bird feeders.

Triumph Full-Size Features: Multi-coated, BaK-4 prisms, eyecups roll, center focus, right eye diopter. **Included:** Eyepiece and objective lens caps, neck strap, case. Eagle Optics limited lifetime warranty and Eagle Advantage repair certificate.

Triumph Compact Features: Fully multi-coated, BaK-4 prisms, eyecups twist, center focus, right eye diopter, waterproof (roof prisms). **Included:** Neck strap, case. Eagle Optics limited lifetime warranty and Eagle Advantage repair certificate.

Energy

Pick up this little roof prism binocular for use on a daytime hike, at the football game, or in the theater. The Energy has multi-coated lenses for bright views and a double-hinged design that folds into an easily portable size. With five great colors to choose from and an affordable price, you will want to order several Energy binoculars—one for yourself and more for friends.

Energy Features: Multi-coated, eyecups roll, center focus, right eye diopter. **Color Choices:** Star (silver), Moon (blue), Sun (yellow), Lava (red), Ocean (green). **Included:** Rainguard, neck strap, case. Eagle Optics limited lifetime warranty.

The Raven—A Great Buy!

"The lightweight Raven is well-built with smooth focusing. Four stars, a best buy!"



William, CO

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Find the Right Stuff at the Right Price ... www.eagleoptics.com 9

SW02768

Fujinon Binoculars

Fujinon Binoculars

Fujinon warranty varies with binocular model.

Polaris

When you want the best binocular for marine or astronomy use, nothing surpasses the Fujinon Polaris FMT-SX binoculars. Fujinon applies special anti-reflection coatings to achieve the outstanding light transmission important for sharp details when viewing at a distance. Protected with waterproofing, fogproofing, and rubber armoring, these binoculars are highly valued by boaters and astronomers.

Polaris Features: Fully multi-coated, BaK-4 prisms, aluminum body, eyecups roll, rubber armor (select models), individual focus, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, objective lens caps, neck strap, (case for 10x50 FMT-SX). Fujinon limited lifetime warranty.

Techno-Stabi

The image stabilization technology built into the Fujinon Techno-Stabi binocular delivers views free of the distortion caused by uncontrolled movement. Fujinon applies special anti-reflection coatings to achieve outstanding light transmission important for sharp details when viewing at a distance. Perfect for use around the water, the Fujinon Techno-Stabi is protected with waterproofing and fogproofing.

Techno-Stabi Features: Fully multi-coated, waterproof, fogproof (nitrogen gas). **Included:** Two AA batteries, rainguard, neck strap, case (hard case for 14x40). Fujinon 1-year warranty.

Polaris

50 mm
FMT-SX



70 mm
FMT



Techno-Stabi

32 mm



FUJINON

	Polaris			Techno-Stabi	
	7x50	10x70	16x70	12x32	14x40
Eye Relief	23 mm	23 mm	12.4 mm	15 mm	13 mm
Close Focus	20.0'	27.0'	36.0'	16.5'	16.5'
Field of View (1000 Yards)	393'	279'	210'	263'	277'
Height	7.9"	11.25"	10.6"	7.0"	7.8"
Width	8.6"	9.75"	9.75"	5.6"	8.5"
Weight	(Listed Below)	76.2 oz	76.2 oz	37.8 oz	53.2 oz
7x50 Polaris	7x50 FMT-SX 50.1 ounces				
Weights:	7x50 FMT-SX 53.6 ounces (Armored)				
	7x50 FMT-SX 55.0 ounces (Armored / Compass)				

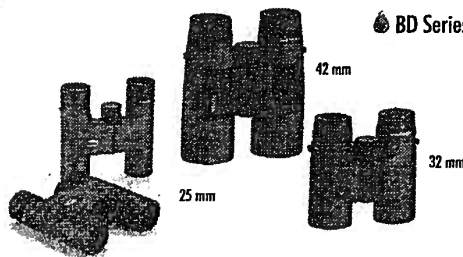
Kowa Binoculars

Kowa

Genesis



BD Series



	Genesis				BD Series					
	8x33	10x33	8.5x44	10.5x44	8x25	10x25	8x32	10x32	8x42	10x42
Eye Relief	15 mm	15 mm	18.3 mm	16 mm	15 mm	17 mm	15 mm	15 mm	18.3 mm	17.6 mm
Close Focus	5.0'	5.0'	5.6'	5.6'	6.0'	6.0'	4.9'	4.9'	6.6'	6.6'
Field of View (1000 Yards)	420'	357'	366'	324'	331'	263'	394'	315'	331'	315'
Height	5.6"	5.6"	6.5"	6.5"	4.4"	4.4"	4.9"	5.0"	5.8"	5.8"
Width	4.9"	4.9"	5.4"	5.4"	4.2"	4.2"	4.8"	4.8"	5.0"	5.0"
Weight	20.8 oz	20.8 oz	33.5 oz	34.0 oz	11.5 oz	11.5 oz	19.8 oz	19.9 oz	25.7 oz	26.3 oz

Kowa Binoculars

Kowa limited lifetime warranty.

Genesis

Kowa's top-performing Genesis binocular rewards you with fine details. By incorporating Prominar XD glass, your view through the Genesis benefits from enhanced resolution and reduced chromatic aberration. Fully multi-coated lenses and prisms provide excellent transmission of the light gathered through the objective lenses. The magnesium body of the Kowa Genesis is built tough for all weather conditions with waterproofing and fogproofing.

Genesis Features: Prominar XD glass, fully multi-coated, BaK-4 prisms, magnesium body, rubber armor, eyecups twist, center focus, locking right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, binocular harness strap, case.

BD Series

You can count on the waterproof and fogproof Kowa BD binoculars to perform well, regardless of the weather conditions. The Kowa BD compact is small in size, but not in performance. Select the Kowa BD mid-size binocular for great performance without extra bulk. Fully multi-coated optics and phase correction work together to deliver bright, sharp images with great color resolution.

BD Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece and objective lens caps, neck strap, case.

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SW02769

Leica Binoculars

Leica limited lifetime warranty plus Leica's 3-year Passport Protection Plan.

Ultravid HD

Over 100 years of craftsmanship culminates in the impressive performance of the Leica Ultravid HD binocular. State-of-the-art design incorporates fluoride glass with anti-reflective coatings to enhance color resolution and increase light transmission. The optimized Leica focus knob functions smoothly regardless of temperature extremes. The AquaDura™ lens coating forces rain to roll off the lens surfaces, makes it easier to remove dirt and smudges, and provides better protection against scratching.

Ultravid HD Features: High-definition (HD) glass, fully multi-coated, phase corrected, dielectric prism coatings (Highlux-System HLS coatings), aluminum body, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas), AquaDura lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case.

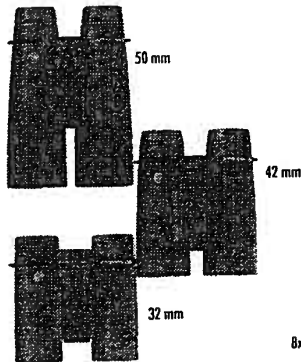
Ultravid Series

Leica's optical glass works behind the scene by reducing stray light and increasing light transmission and contrast. You'll applaud Leica's innovative HighLux-System (HLS) for such distinctive binocular quality... free of distracting color fringing. See for yourself what so many of our customers have already discovered—the elite performance of the Leica Ultravid, packaged in a compact or full size.

Ultravid Features: Fully multi-coated, phase corrected, dielectric prism coatings (Highlux-System HLS coatings), aluminum body, rubber armor or leather trim, eyecups twist, center focus, locking right eye diopter, fogproof, AquaDura lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case.

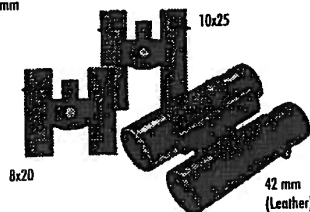
Leica

Ultravid HD Series



AquaDura® Lens Coating
Repels water and residue on outer glass surfaces.

Ultravid Series



	Ultravid HD Series								Ultravid Series			
	8x32	10x32	7x42	8x42	10x42	8x50	10x50	12x50	8x20	10x25	8x42	10x42
Eye Relief	13.3 mm	13.2 mm	17 mm	15.5 mm	16 mm	17 mm	17 mm	13 mm	16 mm	15 mm	15.5 mm	16 mm
Close Focus	6.9"	6.6"	10.8"	9.8"	9.5"	11.5"	10.8"	10.5"	7.2"	10.5"	9.8"	9.5"
Field of View (1000 yds)	404'	352'	420'	389'	336'	352'	352'	299'	341'	273'	390'	336'
Height	4.6"	4.8"	5.6"	5.6"	5.8"	7.1"	7.0"	7.1"	3.6"	4.4"	5.6"	5.8"
Width	4.6"	4.6"	4.8"	4.8"	4.8"	4.8"	4.9"	4.8"	4.4"	4.4"	4.8"	4.8"
Weight	18.9 oz	19.9 oz	27.2 oz	27.9 oz	26.5 oz	35.3 oz	35.3 oz	36.7 oz	8.5 oz	9.4 oz	25.0 oz	24.7 oz

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Our Customers Are Talking

"I would rate your customer service **A+** and will be referring everyone I know to your store."

— Jacob, KS

"This is the third pair of binoculars I have bought from Eagle Optics... I would not think of looking elsewhere."

— Bob, AZ

"Everyone I have talked to at your company has been courteous and professional, plus, your prices are very competitive!"

— John, CA

Expect the best.
We deliver!



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Leica Binoculars

SW02770

Leupold Binoculars

Leupold Binoculars

Leupold warranty varies with binocular model.

Golden Ring HD

The Leupold Golden Ring HD binocular offers high performance without the high price. Vivid color and tack-sharp details are delivered through the high-definition lenses. Leupold's innovative interpupillary distance lock offers you single-handed control. Built tough to protect against weather extremes, the Leupold Golden Ring HD is a great value.

Golden Ring HD Features: High-density (HD) glass, fully multi-coated lenses, phase correction, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, harness strap, neck strap, case. **Leupold full lifetime warranty.**

Northfork


How can a 45 mm binocular feel slim in the hand? Pick up the Leupold Northfork and find out! The Northfork body is designed with a narrow bridge that allows a noticeably comfortable and ergonomic feel. The multi-coated lenses optimize light transmission and enhanced, phase corrected Bak-4 prisms provide the sharp, edge-to-edge view you desire. Waterproofing, fogproofing, and rubber armoring make the Northfork a top choice for rugged use.

Northfork Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Leupold limited lifetime warranty.


Pinnacles

The Leupold Pinnacles is a great all-around binocular with phase corrected, multi-coated optics and silver-enhanced prisms for improved image quality. Protected by waterproofing and fogproofing, you can use this binocular without any weather worries.


Pinnacles Features: Fully multi-coated, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, neck strap, case. **Leupold limited lifetime warranty.**




LEUPOLD
AMERICA'S OPTICS AUTHORITY




Golden Ring HD
42 mm




Northfork
45 mm



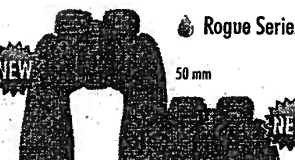
Pinnacles
42 mm




Mojave
42 mm




Katmai
32 mm



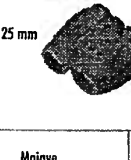
Rogue Series
50 mm



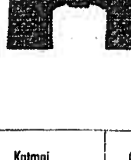
Yosemite
30 mm (Block)



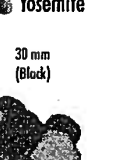
Cascades
42 mm



25 mm



42 mm



30 mm (Natural)

	Golden Ring HD		Northfork		Pinnacles		Mojave				Katmai			Cascades Roof Prism		Rogue						Yosemite	
	8x42	10x42	8.5x45	10.5x45	8x42	10x42	8x42	10x42	10x50	12x50	6x32	8x32	10x32	8x42	10x42	8x25	10x25	8x42	10x42	8x50	10x50	6x30	8x30
Eye Relief	16.5 mm	16 mm	19.5 mm	16.3 mm	17.0 mm	16.5 mm	18 mm	16 mm	17 mm	17 mm	19.2 mm	15.9 mm	10.2 mm	18 mm	16 mm	15 mm	15 mm	16.5 mm	15.6 mm	20.7 mm	15 mm	20 mm	14 mm
Close Focus	7.0'	7.0'	9.8'	9.8'	6.6'	6.6'	12.9'	12.9'	15.0'	9.9'	4.9'	4.9'	4.9'	9.9'	9.9'	14.1'	14.1'	24.0'	21.8'	34.0'	30.0'	16.4'	16.4'
Field of View (1000 Yards)	281'	340'	346'	325'	341'	267'	340'	267'	262'	220'	425'	335'	272'	341'	267'	337'	294'	341'	331'	331'	288'	420'	393'
Height	6.0"	6.0"	6.1"	6.1"	5.5"	5.5"	5.6"	5.6"	6.6"	6.6"	4.1"	4.1"	4.1"	5.5"	5.5"	4.3"	4.3"	5.5"	5.7"	7.3"	7.0"	4.6"	4.5"
Width	5.25"	5.25"	4.8"	4.8"	4.75"	4.75"	4.8"	4.8"	5.3"	5.3"	4.75"	4.75"	4.75"	5.2"	5.2"	4.0"	4.0"	7.0"	TBD	TBD	7.5"	6.3"	6.3"
Weight	33.2 oz	33.8 oz	27.0 oz	27.0 oz	23.0 oz	25.0 oz	23.0 oz	23.0 oz	28.2 oz	28.2 oz	18.2 oz	18.9 oz	18.2 oz	22.9 oz	23.1 oz	12.7 oz	12.7 oz	23.5 oz	24.2 oz	29.7 oz	33.0 oz	17.0 oz	18.5 oz

Katmai

Once a customer has the Leupold Katmai in their hands, they recommend it to friends and come back for more. Optic users who demand portability without sacrificing quality appreciate the compact size, light weight, and bright views of the Katmai. Leupold incorporates L-coated prisms with 64 layers of anti-reflective coatings for extra light transmission you will notice.

Katmai Features: Fully multi-coated, phase corrected, rubber armor, multi-position eyecups, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, objective lens caps, neck strap, case. Leupold limited lifetime warranty.

Mojave

Delighting users with bright, crisp views, the Leupold Mojave delivers by capturing the fine details you crave. The open-hinged body and well-balanced weight of the Mojave feels great in your hands. Leupold incorporates a fully multi-coated lens system and mirror-coated prisms which take the Mojave's optical performance to a new level. With waterproofing, fogproofing, and rubber armoring, the Mojave is ready for whatever you demand.

Mojave Features: Fully multi-coated, phase corrected, rubber armor, multi-position eyecups, center focus, locking right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, objective lens caps, neck strap, case. Leupold limited lifetime warranty.

Cascades

Grab the lightweight Cascades for day-long exploration and delight in the views. Multi-coatings and phase correction ensure brightness. Waterproofing and fogproofing protect the internal optics.

Cascades Features: Multi-coated, rubber armor, twist-eyecups, center focus, locking right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Neck strap, case. Leupold limited lifetime warranty.

Rogue

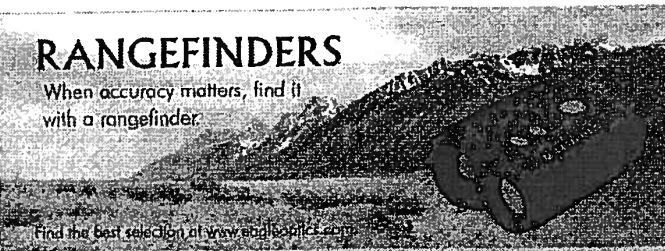
A porro prism binocular is a classic favorite for its performance and value, and the Leupold Rogue delivers both. Expect bright views from the Rogue's fully multi-coated lenses. The locking focus conveniently holds the focus on one area during lengthy periods of viewing. The reverse porro prism design of the compact Leupold Rogue delivers convenience in a palm-sized body.

Rogue (Full Size) Features: Fully multi-coated, rubber armor, center focus, multi-position eyecups, right eye diopter, waterproof. **Included:** Rainguard, objective lens caps, neck strap, case. Leupold limited lifetime warranty.

Yosemite

Order one for yourself and a young explorer, and experience why the Leupold Yosemite creates excitement in the sport optics market. Describing the Yosemite optics as bright doesn't sufficiently depict the excellent light transmission of this economical porro prism binocular. A wide field of view only enhances the enjoyment of using the Yosemite. The small interpupillary distance accommodates a wide range of users. A choice of colors will help you outfit the whole family.

Mojave Features: Multi-coated, rubber armor, eyecups twist, center focus, right eye diopter, waterproof. **Included:** Rainguard, objective lens caps, neck strap, case. Leupold limited lifetime warranty.



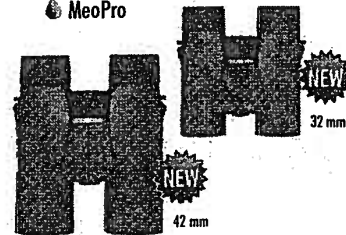
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Meopta MeoPro

For premium performance at the right price, the MeoPro is the way to go. With proprietary ion-assisted lens coatings, this binocular delivers an industry-leading light transmission of 99.8 percent. You'll also enjoy the precise focusing mechanism, generous eye relief, multi-position twist eyecups, 5-foot close focus, and wide field of view.

MeoPro Features: Fully multi-coated, phase corrected, Bak-4 prisms, rubber armor, aluminum body, multi-position eyecups, center focus, right eye diopter on center focus wheel, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens caps, neck strap, case. Meopta lifetime transferable warranty.

MeoPro



MeoPro

	6.5x32	8x42	10x42
Eye Relief	19 mm	18 mm	18 mm
Close Focus	3.0'	5.0'	5.0'
Field of View (1000 yds)	440'	366'	330'
Height	5.2"	6.0"	6.8"
Width	4.7"	5.0"	5.8"
Weight	21.0 oz	25.0 oz	25.0 oz



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SW02772

Minox Binoculars

Minox Binoculars

Minox 30-year limited warranty.

Minox APO HG

Who knew a high-performance, top-quality binocular could weigh in at a comfortable 23.3 ounces? Made in Germany, the Minox APO-HG blends the quality of old-world craftsmanship with the newest technology available. Minox worked with glass engineers to perfect the glass composition for the Schott fluoride ED glass lenses. The apochromatically-corrected binoculars deliver a brilliant image free from color fringing. A single turn of the focus knob brings you from close-up to infinity, and a scale on the focus wheel measures the distance to the subject in your view.

APO HG Features: Extra-low dispersion (ED) glass, fully multi-coated (M* coatings), phase corrected, BaK-4 prisms, magnesium body, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), Minotec external lens coating. Included: Rainguard, neck strap, case, wooden storage box.

Minox CB BL

You use binoculars to see more of the world around you, and the 44 mm Minox CB (comfort bridge) BL binocular aims to please with a 16 percent increase in field of view over the previous BL. The rubber-armored, polycarbonate body and comfort bridge design feels exceptionally comfortable and light in the hand. Powerful light-gathering optical systems use multi-coated lens elements for views in natural color. With phase corrected roof prisms, the images you see will offer excellent detail and sharp contrast.

CB BL Features: Fully multi-coated, phase corrected, BaK-4 prisms, polycarbonate body, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). Included: Rainguard, neck strap, case.

Minox BL BR

Minox incorporates a lightweight polycarbonate body and ridged rubber armoring in a binocular that is easy to carry and comfortable to hold. Adding to your enjoyment is the contrast, detail, and color resolution delivered through the phase corrected prisms and fully multi-coated optics. The exceptional light gathering of the Minox BL BR with 56 mm objective lenses serves you well for astronomy use and scanning distant horizons.

BL BR Features: Fully multi-coated, phase corrected, BaK-4 prisms, polycarbonate body, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). Included: Rainguard, tethered objective lens covers, neck strap, case.

Minox BV BRW

Minox's take-anywhere compact fits the bill with high light transmission, a wide field of view and a close focus of 4.9 feet. With waterproof and fogproof protection of internal optics, the BV BRW is an excellent performer on any occasion.

BV BRW Features: Multi-coated (M* coatings), phase corrected, BaK-4 prisms, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). Included: Neck strap, case.

Minox 8x25 Minoscope

The Minoscope—an Eagle Optics Staff Pick!

More monocular choices on page 26, or visit us at www.eagleoptics.com.

**HG BR Binoculars**

Aiming for performance at the highest level, the engineers at Minox created the high-grade HG binocular. With the advanced technology of a newly designed optical system and 21 layers of lens coatings, the HG offers you impressive light transmission. Aspherical lenses enhance the contrast and sharpness of the image from edge to edge. A single turn of the focus knob brings you from close-up to infinity. A scale on the focus wheel measures the distance to the subject in your view.

HG BR Binocular Features:

Fully multi-coated (M* coatings), phase corrected (Minobright® coatings), BaK-4 prisms, magnesium body, rubber armor, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), Minotec external lens coating. Included: Neck strap, case.

MINOX

APO HG
BR SERIES
43 mm

NEW

CB BL
Comfort Bridge
44 mm

NEW

BL BR SERIES

NEW

HG BR SERIES

NEW

BV BRW

NEW

	APO HG		HG BR						CB BL		BL BR				BV BRW	
	8x43	10x43	8x33	8x43	10x43	8.5x52	10x52	8x44	10x44	8x32	8x42	8x56	13x56	15x56	15x55	15x54
Eye Relief	19.5 mm	16.5 mm	16.5 mm	19.5 mm	16.5 mm	19.4 mm	19.5 mm	19.5 mm	17 mm	15.5 mm	19.5 mm	20.8 mm	15.2 mm	15.5 mm	15.5 mm	15.5 mm
Close Focus	8.2'	8.2'	4.9'	8.2'	8.2'	11.5'	11.5'	8.0'	8.0'	6.2'	8.0'	29.5'	23.0'	4.9'	4.9'	4.9'
Field of View (1000 Yards)	394'	355'	443'	394'	355'	317'	278'	410'	341'	394'	341'	326'	263'	399'	315'	315'
Height	6.5"	6.5"	5.3"	6.0"	6.0"	6.9"	6.6"	5.3"	5.3"	4.8"	5.7"	6.7"	6.7"	4.3"	4.3"	4.3"
Width	5.2"	5.2"	5.2"	5.2"	5.2"	5.3"	5.2"	2.3"	2.3"	5.0"	5.0"	5.7"	5.7"	3.9"	3.9"	3.9"
Weight	23.3 oz	23.3 oz	21.3 oz	22.9 oz	23.3 oz	27.3 oz	28.0 oz	26.0 oz	26.0 oz	16.5 oz	22.9 oz	36.9 oz	38.1 oz	10.4 oz	10.4 oz	10.4 oz

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SW02773

Nikon Binoculars

Nikon 25-year limited warranty plus Nikon's No-Fault Repair/Replacement policy.

EDG

Designed to push your viewing to the edge of darkness, the EDG is Nikon's premier binocular. Engineered with the foremost optical features from Nikon, the EDG delivers superior sharpness, color resolution, and brightness. An open-hinge design provides users the comfort of wrapping each hand around the ergonomically balanced barrels. The strong magnesium alloy body, waterproofing, and fogproofing means the EDG is ready for rugged use.

EDG Features: Extra-low dispersion (ED) glass, fully multi-coated, phase corrected, Dielectric prism coatings, magnesium alloy body, rubber armor, multi-position eyecups, center focus, locking right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, lens covers, neck strap, case.

Monarch X

The Monarch X joins the ranks of another Nikon binocular you will love! With Nikon's advanced dielectric, high-reflective, multilayer prism coating you won't head home until the last second of daylight. Solid construction is balanced across the ergonomic, open-hinged design. With the large central focus knob, you can quickly find subjects regardless of distance.

Monarch X Features: Fully multi-coated, phase corrected, dielectric prism coatings, rubber armor, multi-position eyecups, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Monarch III

Nikon's most well-known 42 mm binocular now has dielectric prism coatings! Favored for a large variety of uses, the Monarch III's lightweight Eco-glass, fully multi-coated optics, and prisms with phase correction and dielectric coatings combine to deliver bright views. Nikon readies the Monarch for any weather conditions with waterproofing and fogproofing.

Monarch III Features: Fully multi-coated, phase corrected, BaK-4 prisms, dielectric coatings, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers (caps on 36 mm), neck strap, case.





Monarch X
45 mm



EDG
32 mm



42 mm



NEW
Monarch III
42 mm

	EDG					Monarch X		Monarch III		
	8x32	10x32	7x42	8x42	10x42	8.5x45	10.5x45	8x42	10x42	12x42
Eye Relief	18.5 mm	17.3 mm	22.1 mm	19.3 mm	18 mm	20.6 mm	16 mm	19.6 mm	15.5 mm	15.4 mm
Close Focus	8.2'	8.2'	9.8'	9.8'	9.8'	9.8'	9.8'	8.2'	8.2'	8.2'
Field of View (1000 yards)	40°	34°	41°	43°	34°	33°	33°	33°	31°	62°
Height	5.6"	5.6"	5.9"	5.8"	5.9"	6.1"	6.1"	5.7"	5.6"	5.7"
Width	5.3"	5.3"	5.4"	5.4"	5.4"	5.5"	5.5"	5.0"	5.0"	5.0"
Weight	23.6 oz	23.6 oz	28.6 oz	28.6 oz	28.9 oz	25.4 oz	25.7 oz	21.5 oz	21.5 oz	21.8 oz

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Nikon Binoculars

SW02774

Nikon Binoculars

Nikon's ATB Series (All Terrain Binoculars)

Nikon's All Terrain Binoculars (ATB) keep up with the most passionate explorer—no matter the weather conditions. See for yourself why an ATB binocular is the preferred tool for so many outdoor enthusiasts.

Monarch PC ATB

With the multitude of Monarch owners, this could be Nikon's most well-known binocular. Favored for a large variety of uses, the Monarch's lightweight Eco-glass, fully multi-coated optics, and phase corrected prisms combine to deliver bright views. Nikon readies the Monarch for any weather conditions with waterproofing and fogproofing.

Monarch III Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers (caps on 36 mm), neck strap, case.

Action Extreme ATB

An economically priced binocular that doesn't compromise performance, the Nikon Action Extreme is a popular choice among customers. Naturalists love this binocular for its exceptionally wide field of view. A proven classic porro prism design, the Action Extreme's construction includes waterproofing, fogproofing, and rubber armoring.

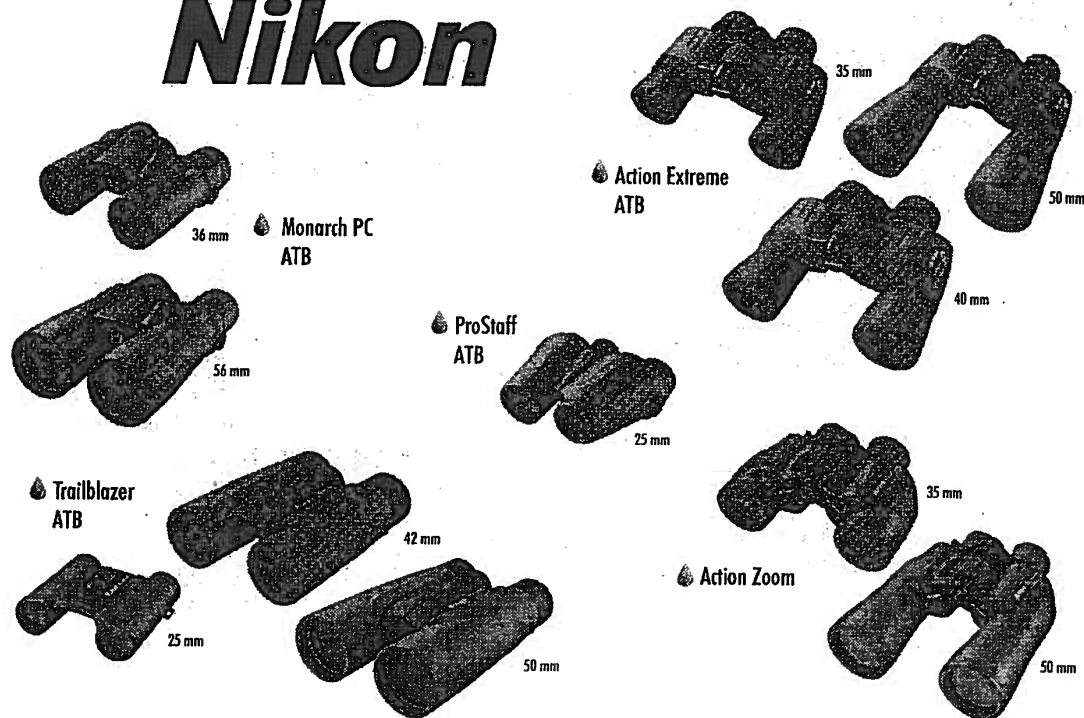
Action Extreme Features: Multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable. **Included:** Rainguard, objective lens caps, neck strap, case.

ProStaff ATB

Another great Nikon binocular, the ProStaff is a consistent choice for customers wanting the brightest view without paying the highest price. With a lot of value packed into the rubber armored, polycarbonate body, the ProStaff is waterproof and fogproof for use in any weather. See for yourself why so many are hooked on the ProStaff.

ProStaff Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, neck strap case.

Nikon



	Monarch PC ATB					Action Extreme ATB						ProStaff ATB			Trailblazer ATB					Action Zoom	
	8x36	10x36	8.5x56	10x56	12x56	7x35	8x40	7x50	10x50	12x50	16x50	8x25	10x25	12x25	8x25	10x25	8x42	10x42	10x50	7-15x35	10-22x50
Eye Relief	17 mm	15 mm	19.2 mm	17.4 mm	16.3 mm	17.3 mm	17.2 mm	17.1 mm	12.2 mm	16.1 mm	17.8 mm	15.5 mm	15.9 mm	15.9 mm	10 mm	10 mm	19.7 mm	15.4 mm	19.6 mm	8.7 mm (7x)	8.6 mm (10x)
Close Focus	8.2"	8.2"	32.8"	32.8"	32.8"	16.4"	16.4"	23"	23"	23"	23"	9.2"	9.2"	9.2"	8.2"	11.5"	16.4"	16.4"	16.4"	36"	49.2"
Field of View (1000 Yards)	367'	314'	324'	315'	288'	487'	436'	335'	341'	288'	183'	330'	262'	220'	429'	342'	363'	293'	293'	288' (7x)	199' (10x)
Height	4.9"	4.8"	7.8"	7.8"	7.8"	4.7"	5.4"	7.0"	7.0"	7.0"	7.8"	3.9"	4.0"	4.1"	4.1"	4.1"	6.1"	5.9"	7.4"	5.4"	7.8"
Width	5.1"	5.1"	5.7"	5.7"	5.7"	7.2"	7.4"	7.7"	7.7"	7.7"	7.7"	4.5"	4.5"	4.5"	4.5"	4.5"	5.2"	5.2"	5.5"	7.2"	7.6"
Weight	19.8 oz	19.9 oz	40.2 oz	40.7 oz	41.6 oz	28.2 oz	30.1 oz	35.3 oz	36.0 oz	36.8 oz	36.7 oz	12.5 oz	12.9 oz	12.9 oz	9.9 oz	9.9 oz	23.6 oz	22.4 oz	29.1 oz	28.4 oz	36.2 oz

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Nikon Binoculars

Trailblazer ATB

The Trailblazer binocular is sure to be a favorite for nature observation. A generous field of view helps you find and follow wildlife on the move. When it comes to getting a better look at butterflies and other insects, it's hard to beat the details you'll see from as close as eight feet. The waterproof and fogproof Trailblazer is a perfect choice to weather unexpected storms.

Trailblazer Features: Multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece caps, neck strap, case.

Action Zoom XL

The Nikon Action Zoom offers you versatility in a binocular. The lower magnification allows you to spot your subject, then zoom in for increased detail. Multi-coated optics provide increased light transmission. Rubber armoring and a large focus knob equal a comfortable and easy-to-use binocular.

Action Zoom Features: Multi-coated, BaK-4 prisms, rubber armor, eyecups roll, center focus, right eye diopter, tripod adaptable. **Included:** Rainguard, objective lens caps, neck strap, case.

Pentax Binoculars

Pentax Worry-Free lifetime warranty.

Pentax DCF ED

The DCF ED is Pentax's best binocular and tops the list for shoppers wanting superior brightness and edge-to-edge sharpness. The lightweight magnesium alloy body, 22 mm eye relief, and 6.6 foot close focus make this binocular a valuable tool for use in a variety of situations. With ED glass, phase coated roof prisms, and fully multi-coated optics, the Pentax DCF ED guarantees outstanding color resolution, tack-sharp images, and excellent light transmission.

DCF ED Features: Extra-low dispersion (ED) glass, fully multi-coated, phase corrected, BaK-4 prisms, magnesium alloy body, rubber armor, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Pentax DCF SP

Don't doubt the performance of the mid-priced Pentax DCF SP. This binocular presents a remarkably bright and sharp view of the action from sunrise to sunset. Built on a strong magnesium frame, the waterproof and fogproof DCF SP is a definite customer favorite.

DCF SP Features: Fully multi-coated, phase corrected, BaK-4 prisms, magnesium alloy body, rubber armor, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Pentax DCF WP II

Pentax includes lots to love about the DCF WP II binocular. A long 17 mm eye relief and eyecups with four click-stop adjustments make this binocular especially user-friendly. Built on an aluminum alloy body with rubber armoring, the waterproof and fogproof DCF WP II is ready for whatever the outdoors throws your way.

DCF WP II Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, neck strap, case.

PENTAX®

	DCF ED				DCF SP				DCF WP II	
	8x32	8x43	10x43	10x50	8x32	8x43	10x43	10x50	8x42	10x42
Eye Relief	17 mm	22 mm	17 mm	22 mm	17 mm	22 mm	17 mm	22 mm	22 mm	17 mm
Close Focus	4.9'	6.6'	6.5'	11.5'	4.9'	6.6'	6.6'	11.5'	8.2'	8.2'
Field of View (1000 yards)	393'	338'	315'	261'	393'	330'	315'	261'	330'	315'
Height	5.0"	5.7"	5.7"	6.7"	5.0"	5.7"	5.7"	6.7"	5.7"	5.7"
Width	5.0"	5.0"	5.0"	5.2"	5.0"	5.0"	5.0"	5.2"	5.0"	5.0"
Weight	23.5 oz	25.2 oz	25.8 oz	30.2 oz	23.2 oz	24.5 oz	25.0 oz	29.6 oz	28.2 oz	28.2 oz

Pentax Binoculars

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Pentax Binoculars

DCF HRc 42 mm

DCF NV 36 mm

DCF LV 28 mm

Papilio 21 mm

PENTAX

	DCF HRc		DCF LV	DCF NV		Papilio	
	8x42	10x42	9x28	8x36	10x36	6.5x21	8.5x21
Eye Relief	21 mm	18 mm	18.8 mm	16.0 mm	17.5 mm	15 mm	15 mm
Close Focus	8.2'	8.2'	9.9'	9.8'	9.8'	1.6'	1.6'
Field of View (Mid Width)	39.3°	31.5°	29.4°	34.2°	28.8°	39.3°	31.5°
Height	5.8"	5.7"	4.6"	6.1"	6.1"	4.5"	4.6"
Width	5.2"	5.2"	4.5"	5.1"	5.1"	4.3"	4.3"
Weight	23.6 oz	23.3 oz	12.9 oz	22.6 oz	22.6 oz	10.2 oz	10.2 oz

Papilio

Just like a portable microscope, the Pentax Papilio is perfect for getting a complete view of the wondrous colors and patterns of butterflies, insects, or flowers. You will enjoy a mosaic of details with the outstanding 1.6 foot close focus. The fully multi-coated optics increase light transmission to deliver the subtleties of nature and art.

Pentax DCF HRc

Pentax guarantees reliability through the seasons with the waterproof and fogproof construction of the DCF HRc. The fully multi-coated optics increase light transmission on cloudy days. Sharp images and true color resolution are delivered through phase corrected prisms.

DCF HRc Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, neck strap, case.

Pentax DCF NV

Another fine addition to the Pentax DCF series, the mid-size NV binocular is outfitted with everything you need to enjoy terrific views. With phase-coated roof prisms providing high resolution and contrast, and fully multi-coated lenses increasing light transmission and color quality, you won't miss any of nature's beauty. A generous eye relief and the four-position eyecups will deliver viewing comfort during a day-long outing.

DCF NV Features: Fully multi-coated, phase corrected, polycarbonate body, rubber armor, multi-position eyecups, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Case.

Pentax DCF LV

Selected by Outdoor Life Magazine as the 2008 winner of Editor's Choice and Great Buy awards, the Pentax DCF LV earns high praise. Whether you are scanning open prairie or dense woodlands, the impressive performance of the Pentax DCF LV promises to make this binocular indispensable for daily outings. Protected for use in tough weather, the DCF LV is waterproof and fogproof.

DCF LV Features: Fully multi-coated, phase corrected, rubber armor, multi-position eyecups, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece caps, neck strap, case.

Papilio Features: Fully multi-coated, BaK-4 prisms, rubber armor, multi-position eyecups, center focus, right eye diopter. Convergent Lens Optical System Engineering (C.L.O.S.E.). **Included:** Rainguard, neck strap, case.

Eagle Optics on Location!

As supporters and sponsors of numerous birding and nature festivals, the Eagle Optics staff attends many events throughout the course of the year—and we relish the opportunities to meet our customers in person!

On the road again...

Have you ever wished you could visit Eagle Optics, but don't have Southern Wisconsin on your travel itinerary? No worries—look for our showroom on the road at a location near you! If there's a specific model you're interested in seeing, let us know!

Visit us at a festival...

For the latest list of birding and nature festivals our staff will attend, go to www.eagleoptics.com/articles/ee-on-location.




Steiner Binoculars


Steiner warranty varies with binocular model.

Peregrine XP


Many years of binocular know-how culminates in Steiner's top-of-the-line Peregrine XP. Packed in a lightweight magnesium body, the ergonomic body style has gel-filled grips and thumb pads for extra comfort. The smooth focus wheel needs only 1.5 turns to travel from near to infinity. High definition optics developed by Steiner result in optimal brightness, color, and contrast.

Peregrine XP Features: Fully multi-coated, phase corrected, dielectric prism coatings, magnesium body, rubber armor, eyecups roll, center focus, left eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Raininguard, tethered objective lens covers, interchangeable winged eyecups, neck strap, case. Steiner 30-year limited warranty.






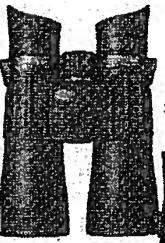
Peregrine XP
44 mm




Safari Pro
Compact




Predator C5
42 mm



Merlin
50 mm



Safari Pro
32 mm



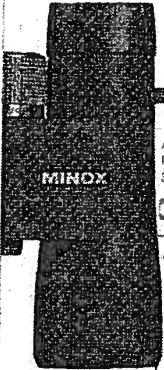
Predator C5
42 mm

	Peregrine XP		Safari Pro			Predator C5		Merlin			
	8x44	10x44	8x22	10x26	8x30	10x42	12x42	8x32	8x42	10x42	10x50
Eye Relief	20 mm	20 mm	12.7 mm	12.4 mm	15 mm	17 mm	16 mm	15 mm	19 mm	16 mm	18 mm
Close Focus	6.5'	6.5'	10.0'	11.5'	20.0'	6.5'	6.5'	8.9'	6.9'	7.9'	8.0'
Field of View (1000 yds)	39°	32°	36°	30°	36°	31°	27°	33°	34°	27°	26°
Height	7.4"	7.4"	4.0"	4.7"	2.4"	6.5"	6.5"	5.5"	6.4"	6.4"	7.3"
Width	4.5"	4.5"	4.8"	4.8"	6.8"	4.8"	4.8"	5.2"	5.2"	5.2"	5.7"
Weight	30.0 oz	30.0 oz	9.7 oz	9.7 oz	18.0 oz	26.4 oz	27.3 oz	20.0 oz	23.0 oz	24.0 oz	26.0 oz

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Read product reviews online from customers like yourself, or write your own review!



Average Customer Rating: ★★★★★

Return Policy: 30 Day Money Back Guarantee

Shipping: Free Ground Shipping (US & Canada)

[Write a Review](#)

Description	Specifications	Included
Total Reviews: 1		
Average Rating: ★★★★★		
Product Binoculars: 8x32		
Manufacturer: Minox		

Safari Pro

You will want to take the feather light and compact Safari Pro on your next hike, but its stylish design will easily fit in at the theater. The large center focus wheel allows for fast focusing and the unique shape feels very comfortable to the hand.

Sport lovers and nature enthusiasts will find the mid-size Safari Pro a pleasure to handle and comfortable for viewing over long periods of time. The Steiner auto-focus system allows you to focus initially at 20 yards, then stays focused from 20 yards to infinity. Soft rubber eyecups are flared and roll up and down for use with or without eyeglasses.

Safari Pro Features: Auto focus (30 mm), center focus (compacts), eyecups roll. **Included:** Neck strap, case. Steiner 10-year limited warranty.

Predator C5

Specifically developed as a tool for hunters and outdoor enthusiasts, the Predator C5 offers a high degree of light transmission, image resolution, and color contrast to make animals and other objects pop out of the shadows. The polycarbonate chassis is durable and the optics are protected with waterproofing and fogproofing.

Predator C5: Fully multi-coated, phase corrected, dielectric prism coatings, polycarbonate body, rubber armor, eyecups twist, center focus, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Raininguard, tethered objective lens covers, neck strap, case. Steiner 30-year limited warranty.

Merlin Series

Steiner's focus on developing birding binoculars resulted in the popular Merlin. Along with phase corrected prisms, the Merlin's optics include premium glass with Steiner's specialized coatings for natural color transmission. The Merlin features soft, angled eyecups, generous eye relief, and are lightweight for comfortable viewing over extended periods.

Merlin Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, eyecups roll, center focus, left eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Neck strap, case. Steiner 10-year warranty.

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Steiner Binoculars

SW02778

Swarovski Binoculars

Swarovski Binoculars

Swarovski limited lifetime warranty.

Swarovski EL 42 mm Swarovision

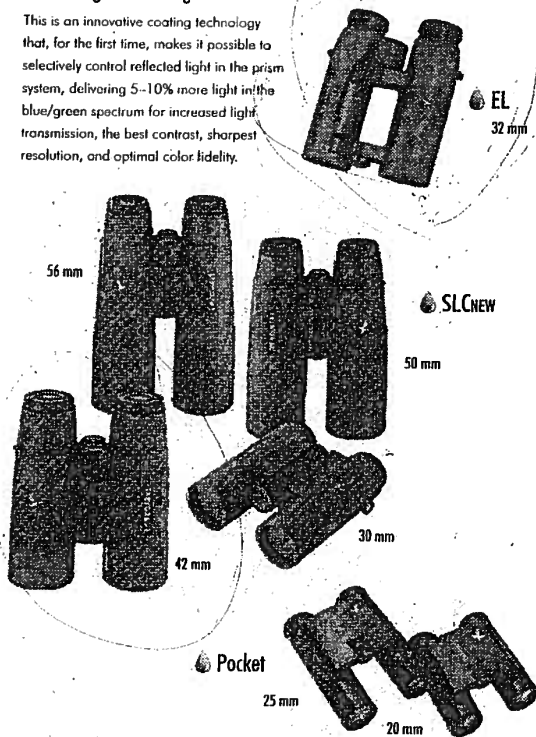
Taking another step on the path to perfection, the EL 42 Swarovision may have reached its destination. This generation of the EL binocular comes with revolutionary new innovations to provide virtually even images with razor-sharp clarity and outlines. Improved coating technology sets new standards for brilliance and image definition and guarantees optimum contrast in low light situations. Factor in the phenomenal field of view offered by the EL 42 Swarovision and you have a binocular that will garner the appreciation of the most demanding user.

EL Swarovision Features: High-density (HD) glass, fully multi-coated, phase corrected, dielectric prism coatings (Swarobright), magnesium body, rubber armor, multi-position eyecups, center focus, locking right eye diopter on center focus wheel, waterproof, fogproof (nitrogen gas), Swaroclean external lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case, Swarovski Snap Shot adapter.

SWAROVSKI

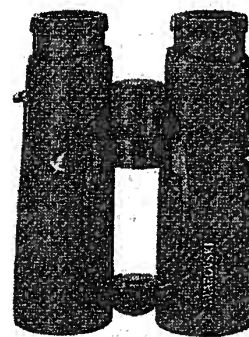
Swarobright® Coating

This is an innovative coating technology that, for the first time, makes it possible to selectively control reflected light in the prism system, delivering 5-10% more light in the blue/green spectrum for increased light transmission, the best contrast, sharpest resolution, and optimal color fidelity.



	EL		SLCnew										Pocket	
	8x32	10x32	8x30	7x42	10x42	7x50	8x50	10x50	8x56	15x56			8x20	10x25
Eye Relief	15 mm	12 mm	15 mm	19 mm	14 mm	23 mm	21 mm	17 mm	22 mm	13 mm	13 mm	13 mm	13 mm	13 mm
Close Focus	7.0'	7.0'	13.0'	13.0'	13.0'	20.0'	20.0'	16.0'	30.0'	26.0'	13.0'	16.0'	13.0'	16.0'
Field of View (1000 Yards)	420'	360'	406'	420'	330'	372'	369'	336'	345'	231'	345'	285'	345'	285'
Height	5.4"	5.4"	5.6"	6.5"	5.8"	7.9"	7.8"	7.7"	8.5"	8.5"	4.0"	4.6"	4.0"	4.6"
Width	4.5"	4.5"	4.3"	4.8"	4.8"	5.0"	5.0"	5.0"	5.0"	5.0"	3.7"	3.7"	3.7"	3.7"
Weight	21.5 oz	21.2 oz	20.8 oz	33.5 oz	30.7 oz	40.6 oz	40.6 oz	40.9 oz	43.7 oz	45.5 oz	7.6 oz	8.1 oz	7.6 oz	8.1 oz

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The EL Swarovision

	8.5x42	10x42
Eye Relief	20 mm	20 mm
Close Focus	4.9'	4.9'
Field of View (1000 Yards)	399'	336'
Height	6.3"	6.3"
Width	4.8"	4.8"
Weight	28.0 oz	28.0 oz

Swarovski EL 32 mm

The Swarovski EL binocular sets the standard for excellence. In order to deliver 98 percent of the available light to your eyes, the EL is engineered with three-part objective lenses, phase corrected prisms, Swarobright prism coatings, and Swarotop multi-layer anti-reflection coatings. Such top-notch brightness even allows digiscoping through the binocular and is made easier with the included SnapShot Adapter. Customers love the open-hinge design, wide field of view, and convenience of the Easy To Clean external lens coating.

EL Features: Fully multi-coated, phase corrected, dielectric prism coatings (Swarobright), BaK-4 prisms, magnesium body, rubber armor, eyecups twist, center focus, locking diopter on center focus wheel, waterproof, fogproof (nitrogen gas), Swaroclean external lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case, Swarovski Snap Shot adapter.

SLCnew—

Rugged doesn't begin to describe the remarkably strong construction of the Swarovski SLC. Built for a rough and tumble lifestyle, the SLC delivers a smooth performance in any situation. A patented focusing wheel for rapid adjustments, deep thumb grooves for comfort, and top-notch optical coatings for bright and sharp images all combine to offer you a superb experience. Customers love the benefits of the Easy To Clean® external lens coating and the ability to digiscope through the included SnapShot Adapter.

SLCnew Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, eyecups twist, center focus, locking diopter on center focus wheel, waterproof, fogproof (nitrogen gas), tripod adaptable (except 8x30). **Included:** Rainguard, tethered objective lens covers, neck strap, case, tripod adapter (15x56).

Swarovski Pocket—Absolutely rugged!

Ideal for any outdoor activity, the Swarovski Pocket binocular will quickly become a must-have accessory. This compact binocular may look delicate, but the lightweight and rugged housing paired with waterproof and fogproof protection guarantee performance regardless of the situation. Take this premium binocular along for a day long hike or evening at the theater. A complex optical system, phase corrected prisms, and Swarobright mirror prism coatings will reward you with sharp, bright images, high resolution, and optimum color fidelity.

Swarovski Pocket Features: Fully multi-coated lenses, phase corrected, BaK-4 prisms, rubber armor (black or green) or leather trim, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Neck strap, case.

SW02779

Vortex Binoculars

Vortex VIP unconditional lifetime warranty.

Kaibab Binocular

The challenge of long-distance viewing is no problem for the rugged Kaibab's powerful 15x magnification. You will appreciate the Vortex HD System that enhances image resolution through extra-low dispersion glass, brightens image details with fully multi-coated optics, and delivers a sharp image that is free of distortion.


Kaibab Features: Extra-low dispersion (XD) glass, fully multi-coated (XR coatings), phase-corrected, silver-coated prisms, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), ArmorTek lens coating. **Included:** Rainguard; tethered objective lens covers, neck strap, case, tripod adapter.

Razor

The Razor binocular impresses many with the top-notch performance of the Vortex HD System. The phase corrected Razor, with its patented XR multi-layer lens coatings and XD glass, delivers rich colors and vivid details, regardless of the distance. Built tough for all uses, the Razor is argon purged for reliability in extreme weather conditions. An open-hinged design allows you to completely grip both barrels and enhances the comfortably balanced ergonomics. Superior engineering and the Vortex VIP warranty guarantee the Razor will perform for generations.


Razor Features: Extra-low dispersion (XD) glass, fully multi-coated, phase corrected, dielectric prisms, aluminum body, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), ArmorTek® external lens coating. **Included:** Rainguard, interchangeable flared eyecups, tethered objective lens covers, neck strap, case.

Kaibab




56 mm

Razor



42 mm



VORTEX

The Vortex HD System

XR Coatings: Eliminate image-degrading reflections and deliver image details of extraordinary brightness.

XD Glass: Carefully selected and precision-crafted extra-low dispersion glass enhances image resolution for true-to-life color and clarity.

XT Optical Design: Virtually eliminates aberrations and provides distortion-free, flat field images with unmatched edge-to-edge accuracy.

ArmorTek Lens Armor: Makes lenses harder and stronger, scratch-resistant, and stain-proof for easier cleaning of dust, dirt, and smudges.

	Kaibab		Razor					
	15x56	8x42	10x42	8.5x50	10x50	12x50		
Eye Relief	17.4 mm	18 mm	16 mm	18 mm	17 mm	17 mm		
Close Focus	23'	8.2'	8.2'	9.8'	9.8'	9.8'		
Field of View (1000 Yards)	226'	410'	325'	358'	329'	274'		
Height	7.7"	6.5"	6.5"	7.5"	7.5"	7.5"		
Width	5.7"	5.5"	5.5"	5.8"	5.8"	5.8"		
Weight	44.0 oz	29.4 oz	29.8 oz	37.0 oz	37.3 oz	37.7 oz		

Viper

From the introduction of the Viper, customers have been amazed by the bright views and sharp details delivered through first-rate optical engineering—all at a reasonable price. The Viper's superior optical design incorporates XD glass and XR multi-layer coatings. Vortex's XP engineering anchors internal prisms in place and improves the Viper's ability to withstand rough use. Don't expect anything less than the best from the Vortex Viper. Fans of the Viper are delighted that Vortex now packs the terrific performance of the award-winning 10x42 Viper into both 32 mm and 28 mm sizes.

Viper Features: Extra-low dispersion (XD) glass, fully multi-coated, phase-corrected, silver-coated prisms, Bak-4 prisms, aluminum body, rubber armor, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (argon gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.



Binocular Harness Strap

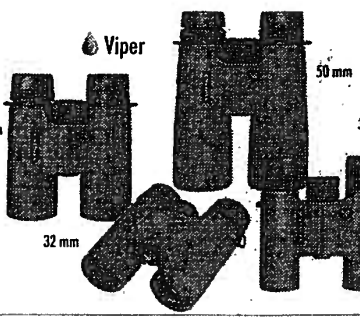
Keep your binocular from jostling around as you hike with this comfortable accessory—it spreads the weight of the binocular across your shoulders.

2x Doubler

Add a 2x Doubler, keep the total weight of your gear low, and take in high-power views that compete with many spotting scopes. Fits on most Vortex 32 mm or larger binocular.



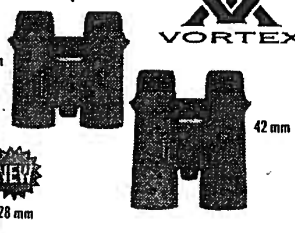
Viper



42 mm

32 mm


Fury Series



50 mm

32 mm

28 mm



VORTEX

	Viper												Fury Series							
	8x28	10x28	6x32	8x32	10x32	8x42	10x42	12x42	8.5x50	10x50	15x50									
Eye Relief	20 mm	19 mm	19.5 mm	16 mm	15 mm	20 mm	16.5 mm	15.8 mm	19.4 mm	19.5 mm	16 mm	21 mm	17 mm	15 mm	20 mm	15 mm	14.5 mm			
Close Focus	9.7'	9.7'	3.0'	3.0'	3.3'	5.1'	5.1'	5.1'	9.8'	8.2'	8.2'	4.9'	4.9'	4.9'	4.9'	4.9'	4.9'			
Field of View (1000 Yards)	319'	267'	420'	400'	325'	347'	319'	267'	305'	278'	210'	436'	409'	346'	358'	332'	268'			
Height	4.7"	4.7"	4.9"	4.9"	5.0"	5.8"	5.8"	5.8"	7.0"	6.7"	6.7"	5.3"	5.3"	5.3"	6.0"	6.0"	6.0"			
Width	4.5"	4.5"	4.8"	4.8"	5.0"	5.3"	5.3"	5.3"	5.2"	5.2"	5.2"	5.4"	5.4"	5.4"	5.4"	5.4"	5.4"			
Weight	11.8 oz	12.0 oz	19.4 oz	19.4 oz	19.4 oz	23.0 oz	23.4 oz	23.2 oz	28.7 oz	27.2 oz	27.2 oz	22.0 oz	22.0 oz	22.0 oz	25.7 oz	25.7 oz	25.7 oz			

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SW02780

Vortex Binoculars

Diamondback Series

Customers quickly realized the rugged Diamondback binocular delivered an amazingly bright view at a shockingly reasonable price. Vortex expanded the successful performance and excellent value of the Diamondback 42 mm into a full range of sizes from 28 mm to 50 mm. With the comfortably soft eyecups and ergonomically balanced design, this binocular is destined to become a classic.

Diamondback Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Crossfire

Do you want a bright binocular with a durable build that won't bust the budget? The Vortex Crossfire is the choice for you! The lightweight Crossfire is designed with a wide field of view and fully multi-coated optics—desirable features for reliable performance. The rubber armored and waterproof, fogproof Crossfire is built to stand up to rough use.

Crossfire Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Spitfire

Here's one great combination of small size and bright optics! Tough construction, fully multi-coated optics, and bright views make the mid-sized 32 mm Spitfire a terrific choice to keep close by for daily use. The five-foot close focus works well for butterfly and insect observation. Don't be afraid to take it on the water; the Spitfire is waterproof and fogproof.

Spitfire Features: Fully multi-coated optics, BaK-4 prisms, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, objective lens caps, neck strap, case.

Raptor

Present the young naturalist in your life with the Raptor, and you've introduced them to the gift of a lifetime. The highly-regarded porro prism Raptor delivers an exceptionally wide field of view with sharp, rich three-dimensional details. Featuring twist-up eyecups and waterproof, fogproof construction, the Raptor continues a classic tradition in a modern fashion.

Raptor Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Vanquish

Take a look through the Vanquish and prepare to relish the view. Built with reverse porro prisms and fully multi-coated optics, the Vanquish presents you with bright, three-dimensional views. Fully protected for use around the water and in temperature extremes, the Vanquish is a tough binocular—ideal for multiple uses.

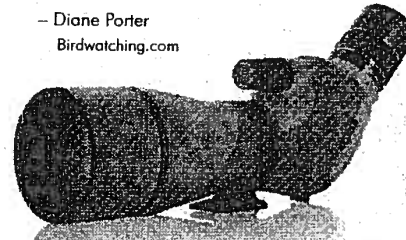
Vanquish Features: Fully multi-coated, BaK-4 prisms, rubber armor, multi-position eyecups, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, neck strap, case.

Vortex Razor HD

"Optically, it is among the top few scopes in the world for brightness and sharpness."

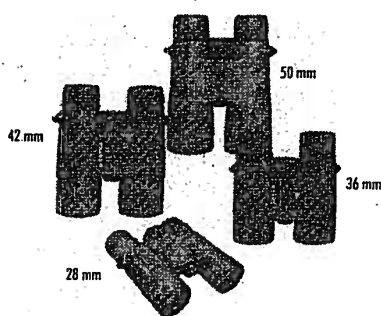


— Diane Porter
Birdwatching.com

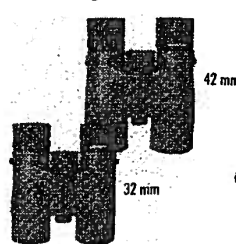


See details on page 35.

Diamondback Series



Crossfire



Spitfire



Vanquish



Raptor



	Diamondback										Crossfire				Spitfire		Raptor		Vanquish	
	8x28	10x28	7x36	9x36	8x42	10x42	8.5x50	10x50	12x50		8x32	10x32	8x42	10x42	8.5x32	10x32	6.5x32	8.5x32	8x26	10x26
Eye Relief	19.3 mm	16 mm	20.9 mm	15.7 mm	18 mm	16 mm	19 mm	19 mm	19 mm		16 mm	16 mm	19 mm	16 mm	16 mm	15 mm	20 mm	20 mm	15 mm	16 mm
Close Focus	13.1'	13.1'	5'9"	6.6'	4.5'	5.0'	9.0'	9.0'	9.0'		16.0'	16.0'	6.0'	6.0'	5.0'	5.0'	15.0'	15.0'	7.6'	7.6'
Field of View (1000 yards)	30°	30°	41°	36°	42°	34°	28°	28°	28°		39°	31°	31°	31°	39°	28°	41°	39°	35°	29°
Height	4.8"	4.8"	5.1"	5.1"	5.9"	5.9"	6.8"	6.8"	6.9"		5.5"	5.5"	6.8"	5.8"	4.3"	4.3"	4.5"	4.5"	4.7"	4.7"
Width	4.5"	4.5"	4.8"	4.8"	5.6"	5.6"	5.6"	5.6"	5.6"		5.0"	5.0"	5.0"	5.0"	5.0"	5.1"	5.7"	5.7"	4.4"	4.4"
Weight	14.0 oz	14.0 oz	23.4 oz	22.6 oz	25.2 oz	24.4 oz	31.0 oz	31.0 oz	31.0 oz		17.4 oz	17.0 oz	22.0 oz	21.6 oz	17.2 oz	16.9 oz	17.3 oz	17.3 oz	12.7 oz	12.7 oz



Unconditional
Unlimited
Lifetime Warranty

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SW02781

Zeiss Binoculars

Zeiss limited lifetime transferable warranty.

Victory T* FL LT

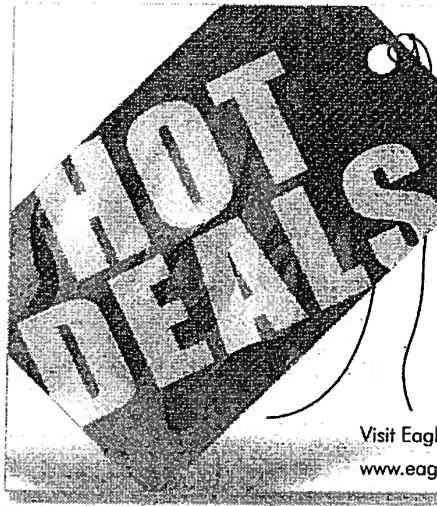
Expect sensational performance from the Victory T* FL LT binocular, because this top-notch binocular delivers. The excellence of Zeiss's brightest binocular comes from superior optical quality, including Zeiss fluoride glass, patented T* anti-reflective coatings, and phase corrected Abbe-Koenig prisms. Customers greatly appreciate the one turn to infinity focusing mechanism, four position click-stop eyecups, and easy-to-clean LotuTec® coating.

Victory FL Features: Fluoride glass, fully multi-coated, phase corrected, magnesium-reinforced body, rubber armor (black or green), multi-position eyecups, center focus, locking right eye diopter, waterproof, fogproof (nitrogen gas), LotuTec® external lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Victory Compacts

The Victory compact puts a premium binocular from Zeiss at your fingertips. Waterproof and fogproof, the Victory B T* is ready for any outdoor adventure. After a day of hiking, slip your compact in its elegant leather case and you are ready for an evening at the theater.

Victory Compact Features: Fully multi-coated (T* coatings), phase corrected (P* coatings), dielectric prism coatings, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas), LotuTec® external lens coating. **Included:** Neck strap, leather case.



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Visit Eagle Optics at
www.eagleoptics.com/products/hot-deals


Conquest Series

The Conquest series of binoculars really shine on overcast days by delivering the brightness you expect from a European manufactured binocular. Zeiss engineers the Conquest with phase corrected prisms and anti-reflection, multi-layer coatings to enhance light transmission. Waterproof and fogproof, these mid-priced binoculars come in a wide range of sizes and magnifications—ready for any outdoor adventure.

The cell phone size of the Zeiss Conquest B T* compact is perfect to keep close at hand for unexpected encounters needing a closer look. The phase corrected Schmidt-Pechan prisms and anti-reflection multi-layer coatings combine to greatly enhance light transmission. The Conquest comes in a leather case to add extra protection outdoors or elegance to an evening activity.

Conquest (Mid and Full Size) Features: Phase corrected, T* multi-layer coated, Pechan prisms (40 mm and 50 mm use Abbe-Koenig prisms), eyecups twist, rubber armor, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case. **Conquest (Compact) Features:** Fully multi-coated, phase corrected, rubber armor, eyecups roll, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Neck strap, leather case.





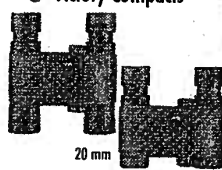
Victory FL

56 mm

42 mm

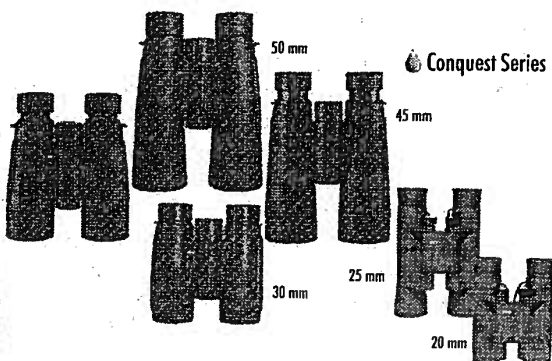
32 mm

25 mm



Victory Compacts

20 mm



Conquest Series

50 mm

45 mm

30 mm

25 mm

20 mm

	Victory FL Series								Victory Compacts				Conquest Series											
	8x32	10x32	7x42	8x42	10x42	8x56	10x56		8x20	10x25		8x20	10x25	8x30	10x30	8x40	10x40	12x45	15x45	8x50	10x50	8x56	10x56	
Eye Relief	16 mm	16 mm	16 mm	16 mm	16 mm	16 mm	16 mm		14 mm	14 mm		14 mm	14 mm	15 mm	15 mm	16 mm	15 mm	14 mm	14 mm	16 mm	15.5 mm	16 mm	16 mm	
Close Focus	6.5'	6.5'	6.5'	6.5'	6.5'	9.8'	9.8'		8.5'	13.1'		9.8'	16.4'	9.8'	9.8'	9.8'	9.8'	16.4'	16.4'	10.5'	10.5'	13.1'	13.1'	
Field of View (1000 Yards)	420'	360'	450'	405'	330'	330'	330'		351'	285'		330'	264'	360'	288'	360'	315'	240'	192'	330'	288'	360'	344'	
Height	4.6"	4.6"	6.5"	6.8"	6.8"	7.9"	7.9"		4.0"	4.7"		4.0"	4.7"	5.6"	5.6"	5.6"	5.6"	6.8"	6.8"	7.8"	7.8"	7.3"	7.4"	
Width	5.1"	5.1"	5.0"	5.0"	5.0"	6.2"	6.2"		3.8"	3.8"		3.7"	3.8"	4.5"	4.5"	5.25"	4.5"	4.7"	4.7"	5.2"	5.2"	5.5"	5.2"	
Weight	19.8 oz	19.8 oz	26.1 oz	26.6 oz	27.0 oz	43.0 oz	44.0 oz		7.9 oz	8.8 oz		6.5 oz	7.1 oz	17.5 oz	18.0 oz	29.0 oz	29.0 oz	21.3 oz	21.9 oz	32.0 oz	32.0 oz	33.5 oz	31.9 oz	

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SW02782

All About Optics

An Eagle Eye View of Optics

You'll find many choices in magnification, size, style, cost, and quality. As you consider which optics suit your needs best, note how the overall optical quality (generally indicated by price) greatly affects image details. We advise you to invest in the best optical quality you can afford.



Extended eyecups



Retracted eyecups

Eye Relief and Eyecup Design

For better viewing when wearing eyeglasses, fold back or twist down the eyecups.

Effective eye relief

Eye relief is the distance in millimeters between the ocular lens and where the image comes to focus and the entire field of view can be seen. If you wear eyeglasses or sunglasses while viewing through binoculars and spotting scopes, look for a minimum eye relief of 15 mm eye relief.



A wide field of view is ideal for many hobbies.

Linear Field of View

1000 Yards

Angular Field of View

Close focus for detailed nature study

Close focus refers to the minimum distance you can clearly focus on an object. If you plan on viewing butterflies, insects, and other subjects at close range, you'll find a variety of binoculars that focus under eight feet.

Field of view

The field of view is the distance seen from left to right when looking through optics. This distance is normally measured in one of two ways: linear feet at a distance of 1000 yards or angular degrees. A wide field of view is helpful when following fast-moving action.

One Degree of Angle = 52.5 Feet at 1000 Yards

What does this term mean?**Aperture:**

The diameter of the objective lens in millimeters.

Center Focus:

Adjusts both binocular barrels at the same time.

Diopler:

Adjusts for differences in a user's eyes. Usually located on right eyepiece or focus wheel.

Fogproof:

Barrels are filled with nitrogen or argon gas to inhibit internal fogging.

Interpupillary Distance (IPD):

This is the distance between the centers of the left and right eye pupil. To get a correct IPD, adjust the position of the binocular barrels until you see one image.

Light Transmission:

An indication of how much light passes through the optical system, or how efficiently it transmits to the eye.

Phase Correction:

This is a set of coatings on the prism glass that keeps light in correct color phases. These coatings are only needed on roof prisms to enhance resolution, contrast, and color fidelity.

Resolution:

How well an optical system distinguishes fine details.

Waterproof:

Optics are sealed with O-rings to prevent moisture, dust, and debris from getting inside an optical system.

Magnification

As magnification increases, eye relief, field of view, and brightness often diminish and images may shake.

Optical Glass and Coating Quality**Glass quality**

Standard grades of optical glass offer good image quality in ideal lighting conditions. For the best performance in low light situations, it is necessary to consider high grades of glass.

High-grade glass types, such as ED (Extra-low dispersion), FL (Fluoride), and HD (High-Definition), offer noticeably enhanced resolution and color fidelity.

Anti-reflection lens coatings

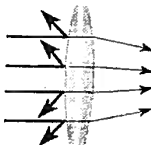
The use of anti-reflective lens coatings will make a difference in image color, resolution, and contrast by increasing the amount of light passing through the optical system. Finer optics use a greater number of higher quality coatings to increase the amount of light transmitted.

Coated optics have a single coating on at least one surface.

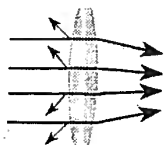
Multi-coated optics have multiple coatings on at least one surface.

Fully-coated optics have a single coating on all surfaces.

Fully multi-coated optics have multiple coatings on all surfaces.



Uncoated Optics



Coated Optics

Anti-reflection coatings allow a greater percent of the light rays to pass through the lenses.



Viewed without Optics



Viewed with Optics

Binoculars

The first number (8 x 42) refers to the magnification, or how many times larger an object will appear. An 8x or 10x binocular is considered adequate for a variety of situations.

Spotting Scopes

The first numbers (20-60 x 80 or 30 x 80) refer to the magnification, or how many times larger an object will appear.

Fixed magnification eyepieces are appreciated for their wide fields of view.

Zoom magnification eyepieces are popular because of their versatility.

Objective lenses

The objective lens is the lens at the end of a binocular or spotting scope that is farthest from your eyes.

The objective lens determines how much light the binocular or spotting scope can receive and how bright the resulting image will be. The objective lens size also affects overall equipment size.



Large Size

Long-range observation, day or night.



Full Size

Birding, nature study, general use.



Mid Size

General day use, travel.



Compact Size

Hiking, travel, backpacking.

Binoculars

The second number (8 x 42) refers to the diameter of the objective lens in millimeters. Objective lenses typically vary in size from 15 mm–80 mm.

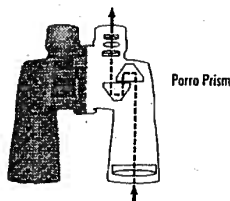
Spotting Scopes

The last number (20–60 x 80) refers to the diameter of the objective lens in millimeters. Objective lenses typically vary in size from 40 mm–100 mm.

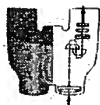
Prisms

Porro Prism Design

Named after their Italian designer, porro prism binoculars are characterized by objective lenses more widely spaced than the eyepieces. Porro prisms generally offer a rich depth of field, wide field of view, and three-dimensional image.



Reverse Porro Prism

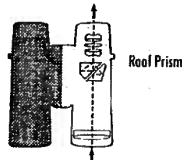


Reverse Porro Prism Design

Compact binoculars often have reverse porro prisms, with eyepieces closer than the objective lenses.

Roof Prism Design

Named for the roof-like appearance of the prisms, roof prism binoculars have the eyepieces and objective lenses positioned in a straight line. Roof prism binoculars are appreciated for their streamlined shape and durability.



Spotting scope body design

Straight body

Is favored by users because it works well for viewing downward from elevated platforms, such as decks and patios.



Angled body

Is favored by users of different heights for viewing without adjusting the tripod height as frequently. The angled design works well when viewing at an upward angle.



Exit Pupil

The exit pupil is the beam of light that exits each eyepiece and enters the user's eyes. The exit pupil is measured in millimeters. To calculate the exit pupil, divide the size of the objective lens in millimeters by the magnification.

$$\text{Exit Pupil} = \frac{\text{Objective Lens}}{\text{Magnification}}$$

8x25 Binoculars
Exit Pupil = 3.125 mm

7x50 Binoculars
Exit Pupil = 7.14 mm



The exit pupil is seen as a white circle in the eyepiece.

Binoculars for low light conditions

A person's dilated pupil is usually around 5 mm. As we age, the iris dilates less. The larger the exit pupil of the binocular, the brighter the image will appear in low light conditions.



Optics for Your Activity

Eagle Optics offers a variety of binoculars, monoculars, and spotting scopes to meet a wide range of activities. Here are some suggestions for choosing binoculars:

Astronomy: Objective lens size 50 mm and larger

Birding: Magnification of 7x to 10x

Boating: Waterproof, large objective lens

Butterfly Watching: Close focus under eight feet

Hiking and Travel: Compact, waterproof, rubber armored

Kids: Compact to mid-size with narrow interpupillary distance (IPD)

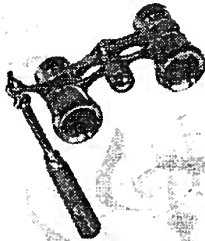
Spectator Sports: Wide field of view, magnification of 6x to 8x

Theater Glasses: Compact, wide field of view, low magnification

Need help choosing optics?

E-mail info@eagleoptics.com or call 1-800-289-1132.

Monoculars



Theater Glasses

Available at www.eagleoptics.com/theater-glasses.

Capture the details!

Leica Monovid

Count on outstanding performance when you're off exploring a museum or interacting with nature. Leica bundles optical excellence in the four-inch, four-ounce Monovid and includes a close-up accessory lens to bring out details from as close as 10 to 14 inches.

Monovid 8x20 Features: Fully multi-coated, rubber armor, waterproof, fogproof (nitrogen gas), AquaDura® external lens coating. **Included:** Neck strap, case, belt clip (36 mm). Leica lifetime warranty plus a three-year Passport Protection Plan.

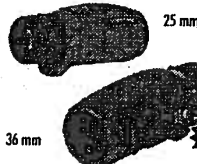


8x20 Minovid

Vortex Solo Monocular

The new 36 mm Solo will spoil you with bright views. This lightweight, dependable monocular will quickly become important for your daily use and travels.

Solo Features: Fully multi-coated, rubber armor, eyecup twists, waterproof, fogproof (nitrogen gas). **Included:** Neck strap, case, belt clip (36 mm). Vortex VIP unconditional lifetime warranty.



36 mm

NEW

Zeiss Design Selection Monoculars

Zeiss offers stunning image quality with the slim, sleek Design Selection monoculars. Magnifying text within an arm's length is especially easy thanks to the one-foot close focus. These monoculars combine sophisticated style with sure-fire mechanical and optical precision.

4x12: A magnificent magnifier. Draw tube focus.

6x18: Good perspective with a 366-foot field of view. Draw tube focus.

8x20: Ideal for travelers, sports and cultural events.

10x25: Effective tool for orienting yourself to distant landmarks or nearby views.

DesignSelection Features: Zeiss P* and T* coatings, eyecup rolls. **Included:** Strap, case. Zeiss limited lifetime transferable warranty.

Zeiss Conquest Mini Quick Monocular

No larger than a fountain pen—weighs less than a pocketknife. Great for gifts!

Conquest Mini Quick 5x10 Features: T* multi-coatings. **Included:** Leather pouch, built-in pocket clip. Zeiss limited lifetime transferable warranty.

Minox Minoscope

Travel the world and revel in all the bright details with the Minoscope! Fogproof and waterproof, the versatile Minoscope fits comfortably in your hand and is easy to focus with a well-placed focus ring.

Minoscope 8x25 Features: Multi-coated, rubber armor, eyecup twists, waterproof, fogproof (nitrogen gas). **Included:** Strap, case. Minox lifetime warranty.



8x25 Minoscope

Brunton Macroscope™

Bring details to life from 18 inches to infinity with an easy turn of the focus dial

Macroscope 7x40 Features: Fully multi-coated, BaK-4 prisms, aluminum body, rubber armor, eyecup twists, tripod adaptable. Brunton limited lifetime warranty.



7x40 Macroscope

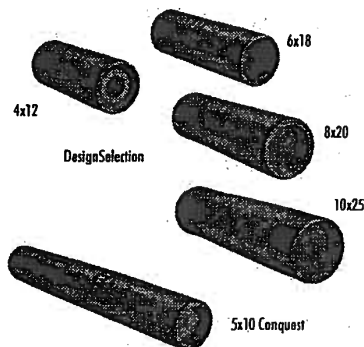
Eagle Optics Insight Monocular

The compact, economical Insight provides an exceptionally wide field of view.

Insight 7x18 Color Chokes: Bluebird blue, Cardinal red, Goldfinch yellow, Warbler green, Metallic finish. **Included:** Strap, soft pouch with belt-loop attachment. Eagle Optics limited lifetime warranty.



7x18 Insight in five bright colors!



4x12

DesignSelection

6x18

8x20

10x25

5x10 Conquest

	Brunton Macroscop	Eagle Optics Insight	Leica Monovid	Minox Minoscope	Vortex Solo				Zeiss Design Selection				Zeiss Conquest
	7x40	7x18	8x20	8x25	8x25	10x25	8x36	10x36	4x12	6x18	8x20	10x25	5x10
Eye Relief	15 mm	8 mm	15 mm	12 mm	15 mm	14.5 mm	18 mm	15 mm	16 mm	16 mm	16 mm	16 mm	16 mm
Close Focus	1.5'	8.0'	6.0'	1.2'	16.4'	16.4'	16.4'	16.4'	1.0'	1.0'	9.8'	16.4'	13.1'
Field of View (1000 yards)	336'	470'	331'	342'	378'	315'	393'	325'	552'	366'	345'	285'	300'
Length	6.5"	3.0"	4.0"	3.6"	5.7"	5.7"	4.9"	4.9"	2.8"	3.7"	4.0"	4.6"	4.5"
Width	2.6"	1.0"	1.0"	2.2"	5.6"	5.6"	9.7"	9.7"	1.1"	1.1"	1.2"	1.5"	0.6"
Weight	11.3 oz	1.8 oz	4.0 oz	5.3 oz	5.6 oz	5.6 oz	9.7 oz	9.7 oz	1.6 oz	2.8 oz	2.7 oz	3.1 oz	.8 oz

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SW02785

Bushnell Spotting Scopes

Bushnell limited lifetime warranty.

Elite 80 mm ED

Expect terrific performance at a moderate price with Bushnell's 80 mm Elite ED spotting scope. The extra-low dispersion (ED) glass delivers impressive image resolution and contrast.

Waterproofing and fogproofing protect the internal optics from a variety of weather, and Bushnell's permanent Rainguard® lens coating works to decrease the effect of rain on external lenses. These benefits guarantee that this customer favorite from Bushnell performs well in whatever situation comes its way.

Elite ED Features: Extra-low dispersion (ED) glass, fully multi-coated, BaK-4 prisms, rubber armor, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas), Rainguard exterior lens coating. **Included:** View-through case, eyepiece cap, objective lens cover. Straight or angled body with 20-60x eyepiece.

Legend Ultra HD

Capture all the details of the moment through the razor-sharp views of the Legend Ultra HD 80 mm spotting scope. Now available in a mid-sized 60mm model as well as the convenient, compact 50 mm design. Priced for the budget-minded, you will still enjoy the precise optical performance of extra-low dispersion glass and the bright images through the fully multi-coated optics.

Legend Ultra HD Features: Extra-low dispersion (ED) glass, fully multi-coated, BaK-4 prisms, rubber armor, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas), Rainguard exterior lens coating. **Included:** View-through case, eyepiece cap, objective lens cover. Straight or angled body with zoom eyepiece.

Natureview

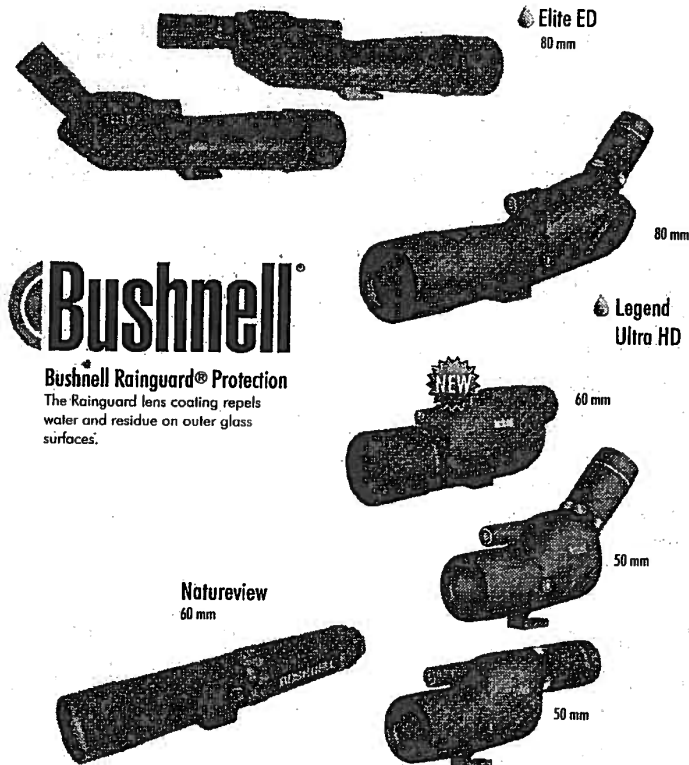
Just as its name implies, the Natureview spotting scope lets you zoom in on wildlife in your backyard or on the trail. The streamlined design, smooth rubber armor, and light weight of the Natureview makes handling effortless. Take this scope on all your outings for great views through the fully-coated optics.

Natureview Features: Fully coated, BaK-4 prisms, rubber armor, sunshade. **Included:** Case, eyepiece cap, objective lens cover, camera adapter. Straight body with built-in zoom.

Free Shipping

Eagle Optics ships via
FedEx Ground with no charge
to you as our way of saying
"Thanks for your business!"

Only applies to shipping in the continental United States where FedEx Ground delivers and for orders over \$50.

Bushnell Spotting Scopes
**Easy rotation of scope body**

An angled body makes sharing views with children so easy. Instead of changing the height of the tripod, simply rotate the scope body so that the eyepiece faces downward. Also helpful when using a car window mount.

Elite ED

80 mm
20-60x
18 mm
98-50'
15.0"
53.0 oz
17"

Legend Ultra HD

50 mm	60 mm	80 mm
12-36x	15-45x	20-60x
17 mm	20 mm	18 mm
179-50'	140-63'	110-51'
15.0"	18.0"	35.0"
36.3 oz	40.4 oz	80.1 oz
9.8"	11.1"	16.5"

Natureview

60 mm
15-45x
32 mm
150-38'
38.0"
29.0 oz
14.0"

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SW02786

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Looking for more? Join discussions on Facebook, tweet on Twitter, and peruse our blogs and web site. Take part in special events, activities, and trips. It's all here!

Become a part of the ABA community of birders.

Go to www.aba.org/eo today.



Caring for Our World—Eagle Optics is making a difference!

For over 20 years Eagle Optics has generously donated to conservation groups that care for and expand habitat conservation for birds and wildlife.

These are just a few of the groups Eagle Optics sponsors:

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World Birding Center

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Hawk Watch International

ABA Birder's Exchange Program

Cornell Lab of Ornithology

Ducks Unlimited

Fish & Wildlife Service

Golden Gate Raptor Observatory

Gulf Coast Bird Observatory

Hawk Ridge Bird Observatory

International Bird Rescue Research Center

International Crane Foundation

International Migratory Bird Day

Klamath Bird Observatory

National Audubon Society

(plus many local chapters)

Natural Heritage Land Fund

North America Natural Resources & Wildlife

North American Butterfly Association

Point Reyes Bird Observatory

Pronatura Veracruz

Rocky Mountain Bird Observatory

San Francisco Nature Education

Saving Birds Thru Habitat

Texas Parks and Wildlife

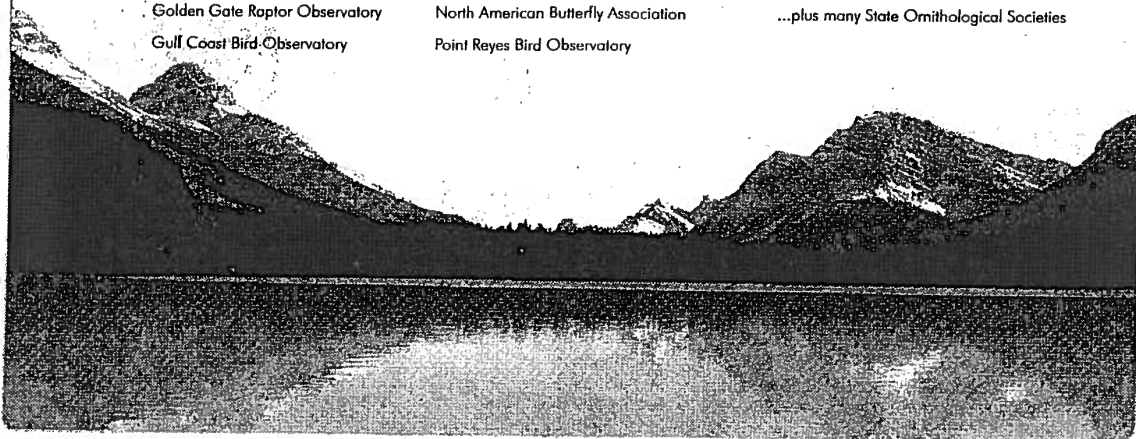
Trust for Public Land

Urban Ecology Center

Ventana Wildlife Society

Wildlife Habitat Council

...plus many State Ornithological Societies



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SW02787

Kowa Spotting Scopes

Kowa limited lifetime warranty.

TSN Prominar Series

Prominar spotting scopes from Kowa kick up the performance level and viewing experience by using an XD objective lens with low-dispersion properties to diminish chromatic aberration. The 66 mm and 77 mm lens sizes offer light-gathering power for long distances and low light settings, yet keep the size at an easy-to-carry weight. Kowa engineers offset the length and weight associated with a large objective lens by incorporating an inner focus system and a magnesium alloy body. With the eyepiece locking mechanism, the eyepiece securely attaches to the body and reduces the risk of loss.

TSN 88 mm Prominar

With the 88 mm Prominar spotting scope, Kowa takes image quality to the max by incorporating fluorite crystal lenses to enhance resolution, color, and contrast. Combined with the light-gathering power of the 88 mm objective lens, this Kowa Prominar delivers the ultimate viewing experience!

TSN Prominar Features: Extra-low dispersion (XD) glass, fully multi-coated, BaK-4 prisms, dual focus (77 mm and 88 mm), magnesium alloy body, rubber armor, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece cap, threaded objective lens cap. Straight or angled body. Eyepieces sold separately.

TSN Standard Series

Take your pick from the lightweight size of the 60 mm or 66 mm scopes with standard glass. Both have long set a lofty performance bar. You will gather all the important details through Kowa's fully multi-coated optics which deliver beautifully bright, clear, and sharp images.

TSN Standard Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece cap, threaded objective lens cap. Straight or angled body. Eyepieces sold separately.

Kowa DA-10 Digiscoping Adapter

Move beyond viewing to capturing digital images with your Kowa spotting scope. Specifically designed for use with digital cameras using filter threads, the compact Kowa DA-10 adapter fits on any of the TSN 77 mm or TSN 88 mm spotting scopes. Call Eagle Optics or check our web site for complete details.

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Kowa Spotting Scopes

Winners for digiscoping.

Eagle Optics

Champions for digiscoping advice.

Call to get started!
1-800-289-1132

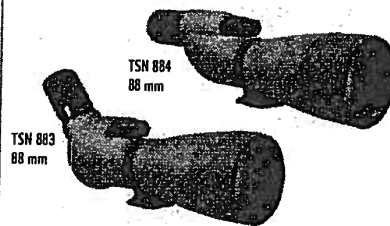
TSN 82SV

Kowa continues the legendary performance of the TSN-821M spotting scope with the updated TSN-82SV. Designed to accept eyepieces fitting the Kowa 60/66 mm spotting scopes, you can now choose from magnifications of 26x, 32x, and 27x. With the variety of eyepiece choices and its bright optical performance, the TSN 82SV carries on the tradition of enjoyable performance at a pleasing price.

TSN 82SV Features: Fully multi-coated, BaK-4 prisms, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece cap, threaded objective lens cover. Accepts the Kowa 60 mm / 66 mm eyepieces.

TSN Prominar 88 mm

Also available with standard glass.



TSN 883
88 mm

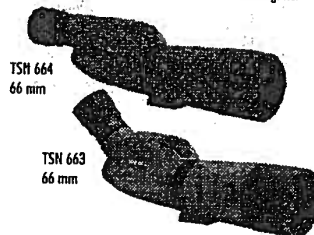
TSN 884
88 mm



TSN 82SV
82 mm

TSN Prominar 66 mm

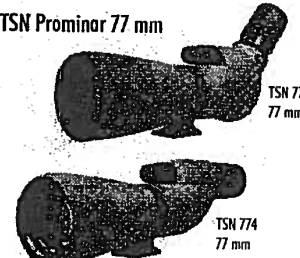
Also available with standard glass.



TSN 664
66 mm

TSN 663
66 mm

TSN Prominar 77 mm



TSN 773
77 mm

TSN 774
77 mm

	TSN 82SV 82 mm			TSN 88 mm Series 88 mm			TSN 77 mm Series 77 mm			TSN 66 mm Series 66 mm		
Eyepiece	27x LER	32x WA	21-63x	25x LER	33x WA	20-40x	25x LER	33x WA	20-40x	25x LER	33x WA	20-40x
Eye Relief	32 mm	20 mm	16.5-16 mm	32 mm	20 mm	17-16.5 mm	32 mm	20 mm	17-16.5 mm	32 mm	20 mm	16.5-16 mm
Field of View (1000 Yards)	105°	114°	93-51°	110°	128°	115-55°	110°	128°	115-55°	110°	128°	97-53°
Close Focus	20.0'	[Kowa's 60/66 mm eyepiece]		16.4'			16.4'			20.0'		
Weight	52.5 oz			54.7 oz			49.6 oz			36.0 oz		
Length	15.1"			13.0"			12.0"			12.0"		

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SW02788

Leica Spotting Scopes

Leica Spotting Scopes

Leica limited lifetime warranty plus Leica's 3-year Passport Protection Plan.

Televid APO

Good things come to those who wait—Leica now rewards its customers with the Televid APO spotting scope. Starting with a six percent increase in light yield, the result is a distinctively clear image even while viewing in low light conditions. The four-part objective lens maximizes color fidelity and resolution. Leica's protective layer of AquaDura® guarantees the beautiful images will not be diminished by annoying fingerprints, dirt, or rain.

Televid Digital Camera Adapter 3

Leica's camera adapter securely holds most digital point-and-shoot cameras to the Televid's eyepiece to capture photographic details not available with a camera's normal zoom magnification. Designed for either the 65 mm or 82 mm Televid models.

Televid 25-50x Eyepiece

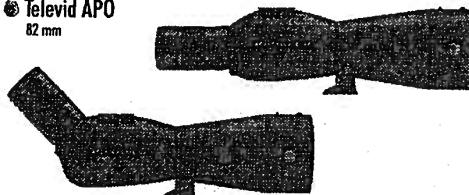
Prepare for a new viewing experience when you lock this eyepiece on the Televid APO. A redesigned optical system means the superb wide-angle and variable zoom magnification provided by the eyepiece remains the same on the 65 mm and 82 mm scope. The eyepiece is constructed with a comfortable adjustable eyecup and rubberized elements for easy handling.

Leica

Leica AquaDura Coating

A new development from Leica, the AquaDura coating reduces fogging and allows moisture droplets and dirt to simply roll off the lenses. This ensures clear visibility through every Televid spotting scope—even in the wind and rain.

Televid APO
82 mm



Televid APO
65 mm



	65 mm	82 mm
Eyepiece	25-50x	25-50x
Eye Relief	19 mm	19 mm
Field of View (1000 yds)	134-92'	134-92'
Close Focus	9.8'	12.8'
Weight	34.8 oz	47.7 oz
Length	11.8"	12.8"



Televid APO Features: Fluoride glass, fully multi-coated, BaK-4 prisms, dual focus, magnesium body, rubber armor, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas), AquaDura® external lens coating. Included: Eyepiece cap and case, objective lens cover. Straight or angled body.

Leupold Spotting Scopes

Leupold Spotting Scopes

Leupold warranty varies with model.

Kenai 80 mm Spotting Scope

Talk about versatile! Leupold includes both the 30x wide angle and 25-60x zoom eyepieces with the Kenai HD to provide you excellent flexibility for observation. Add to this the high-performance optics, tough industrial design, and attractive price of the Kenai HD, and you have a spotting scope that is up to the challenge of all your outdoor adventures.

Kenai Features: High-definition (HD) glass, fully multi-coated optics, helical focus, magnesium body, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas). Included: 25-60x and 30x eyepieces. Straight or angled body. Limited lifetime warranty.

LEUPOLD

AMERICA'S OPTICS AUTHORITY

Kenai
80 mm



Kits available.

Golden Ring
60 mm



Sequoia

Also available with straight body.



Kits available.

	Kenai 80 mm	Golden Ring 60 mm	Sequoia 60 mm	80 mm
Eyepiece	30x	25-60x	15-45x	20-60x
Eye Relief	18.5 mm	17.4-17.9 mm	16.5-13 mm	19.9-15 mm
Field of View (1000 yds)	126'	94-52'	131-63'	99.6-33'
Close Focus	11.8'	11.8'	30.0'	30.0'
Weight	58.5 oz	58.5 oz	35.1 oz	62.8 oz
Length	14.0"	14.0"	13.0"	15.9"

Meopta Spotting Scopes

Meopta lifetime transferable warranty.

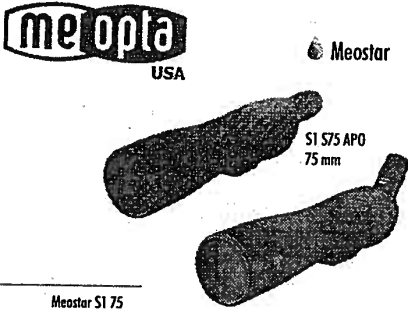
Meostar S1 75

Built upon a long tradition of optical excellence, the Meostar lives up to the company's motto, "A better view of the world". With a 75 mm objective lens, the Meostar gives you the best of both worlds—good light gathering capability and a weight of around only 40.5 ounces. The rugged aluminum alloy, carbon fiber body and the waterproof, fogproof optics provide long-lasting protection. In order to boost the light transmission, the Meostar S1 has fully multi-coated lenses. The phase-corrected roof prism optimizes the extra light and adds image clarity and color resolution to those fine details.

Meostar S1 S75 APO

For just a little more money, you can receive the benefit of apochromatic (APO) glass in your Meostar scope. The premium-grade fluorite glass provides ultimate light transmission, image clarity, and color resolution for superior image quality.

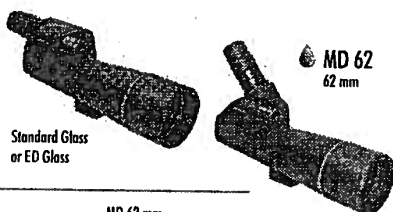
Meostar S1 75 Features: Fully multi-coated, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas). **Included:** Objective lens caps. Straight or angled body with standard or APO glass. Eyepieces sold separately.



Meostar S1 75 75 mm	
Eyepiece	30x 20-40x
Eye Relief	15 mm 15 mm
Field of View (1000 Yards)	114° 93-48°
Close Focus	14' 14'
Weight	40.6 oz*
Length	13.8"

*APO model weighs 43.7 ounces and measures 14.4 inches.

MINOX



Standard Glass
or ED Glass

	MD 62 mm 62 mm					
Eyepiece	22x	30x	40x	20-45x	21-42x	
Eye Relief	11 mm	19.5 mm	16 mm	TBD	20-22 mm	
Field of View (1000 Yards)	158°	115.5°	63°	89-56°	89.5-68.5°	
Close Focus	16.0'					
Weight	31.5 oz*					
Length	12.9"					

*Weight listed for ED model only. Additional weight of eyepieces noted.

Golden Ring 12-40x60 Spotting Scope

Key to the popularity of Leupold Golden Ring spotting scopes is the absolute ruggedness and lightweight construction. This compact line of scopes is perfect for lovers of the outdoors who can't be slowed down by heavy equipment. The dark brown rubber armoring protects the internal optics.

Golden Ring Features: High-definition glass (HD models), fully multi-coated, rubber armor, eyecup rolls, waterproof, fogproof (nitrogen gas). **Included:** View-through case, eyepiece and objective lens caps. Standard or HD glass. Leupold full lifetime warranty.

Sequoia Spotting Scopes

Choose the Leupold Sequoia spotting scope for your next trip out west or to the local refuge. Durable construction is encased in strong rubber armoring, and waterproofing protects the optics from an unexpected shower. The Sequoia has fully multi-coated optics to ensure optimal light transmission.

Sequoia Features: Fully multi-coated, rubber armor, eyecup twists, sunshade, waterproof, fogproof (nitrogen gas). **Included:** Case, threaded eyepiece cover, objective lens cap. Straight or angled body. Leupold limited lifetime warranty.

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Minox Spotting Scopes

Minox lifetime transferable warranty.

Minox MD ED

Use the MD 62 mm ED and enjoy such close-up views, you may think you can reach out and touch your subject! With the 16 foot close focus, you can scope in your backyard. The sturdy metal body protects this mid-sized scope, yet the body is a lightweight 31.5 ounces. Fully multi-coated optics allow for increased light transmission under low light conditions.

Minox MD 62 mm Eyepieces

Minox offers a variety of fixed and zoom eyepieces to work with its 62 mm spotting scope. Zoom eyepieces offer you a variety of magnifications, while fixed magnification eyepieces offer a wider field of view. Customize the scope to your optical needs by selecting the eyepiece that fits your activity.

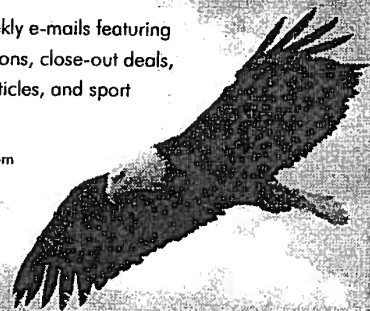
MD Features: Extra-low dispersion glass (ED models), fully multi-coated, metal body, rubber armor, eyecup twists, rotating tripod ring, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece and objective lens caps, view-through case. Straight or angled body with standard or ED glass. Eyepieces sold separately.

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Meopta Spotting Scopes — Minox Spotting Scopes

SW02790

Nikon Spotting Scopes

Nikon Spotting Scopes

Nikon 25-year limited warranty, plus a No-Fault Repair or Replacement Policy.

ED Fieldsopes

Nikon Fieldsopes ace the class when it comes to size, performance, and value. Perfectly sized, the petite 50 mm spotting scope tops the list for an excellent performer when size matters. The 25-75x82 Fieldscope offers tremendous magnification and monstrous light-gathering power. But if your spotting scope needs to fall between the small 50 mm and mighty 82 mm, Nikon's 20-60x60 scope is the answer. Incorporated in all of these Fieldsopes is Nikon's ED glass to deliver distinctive edge-to-edge sharpness with first-rate detail and color resolution. Adding to the overall image quality, the precisely cut and polished glass is fully multi-coated to allow for optimal light transmission.

Fieldscope Features: Extra-low dispersion (ED) glass, fully multi-coated, eyecup twists, sunshade, waterproof, fogproof (nitrogen gas). **Included:** View-through case, eyepiece and objective lens caps. Straight or angled body with zoom eyepiece.

EDG

Never afraid to chart new territory, Nikon engineers take the Fieldscope performance to new levels with the EDG. With the same ED glass lenses found on the successful EDG binocular, the EDG spotting scope rewards you with superior sharpness and color correction for top-notch resolution. Precisely cut and polished glass is fully multi-coated for brilliant views. The tough, yet lightweight body is waterproof, fogproof, and ready for any adventure.

Nikon's EDG eyepieces deliver unbelievable colors and bright, high-contrast images—ideal for close study.

EDG Spotting Scope Features: Extra-low dispersion (ED) glass, fully multi-coated, rubber armor, eyecup twists, rotating tripod ring, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece and objective lens caps. Straight or angled body with 65 mm or 85 mm objective lens.

ProStaff

See for yourself why customers say, "Wow" when they first look through the Prostaff. Describing the view as bright doesn't do the Prostaff justice. Nikon uses lead and arsenic-free Eco-Glass for high resolution images and fully multi-coated optics for increased light transmission. With the magnifications offered by the 20-60x zoom eyepiece, the 82 mm objective lens gathers plenty of light in the forest and delivers distant details on the plains. Cut weight, but not performance, and carry the lightweight 65 mm ProStaff. Both sizes are built tough to handle rugged situations.

Prostaff Features: Multi-coated optics, BaK-4 prisms, eyecup twists, rubber armor, waterproof, fogproof (nitrogen gas). **Included:** View-through case, eyepiece and objective lens caps. Straight or angled body with zoom eyepiece.

Prostaff Outfits Include: Outfit includes a straight, black ProStaff spotting scope body, zoom eyepiece, view-through carry case, and a full-size tripod. 65 mm or 82 mm (82 mm also available in Realtree camouflage).

Nikon

Fieldscope Series

82 mm

60 mm

50 mm

EDG Series

85 mm

65 mm

ProStaff Series

82 mm

65 mm

	EDG Series						Fieldscope ED Series			Prostaff Series	
	85 mm			65 mm			82 mm	60 mm	50 mm	82 mm	65 mm
Eyepiece	20-60x	25x	30x	16-48x	20x	24x	25-75x	20-40x	13-30x	20-60x	16-48x
Eye Relief	18.4-16.5 mm	32.3 mm	25.4 mm	18.4-16.5 mm	32.3 mm	25.4 mm	14.1 mm	14.1 mm	12.9 mm	15-13.6 mm	15-13.6 mm
Field of View (1000 Yards)	115.5-57.8'	126.0'	126.0'	147.8-73.5'	157.5'	157.5'	84'	105'	157.5'	99-49.9'	126-62'
Eyepiece Item #							#7467	#7467	#7466	#8323	#8323
Close Focus	16.4'			10.8'			16.4'	16.4'	9.8'	20.0'	13.1'
Weight	71.6 oz			57.9 oz			64.2 oz*	43.7 oz*	21.9 oz*	43.2 oz	32.8 oz
Length	18.8"			16.2"			13.3"	10.9"	8.1"	15.8"	11.5"

*Weight for angled body with zoom.

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SW02791

Pentax Spotting Scopes

Pentax Worry-Free lifetime warranty.

Pentax PF ED

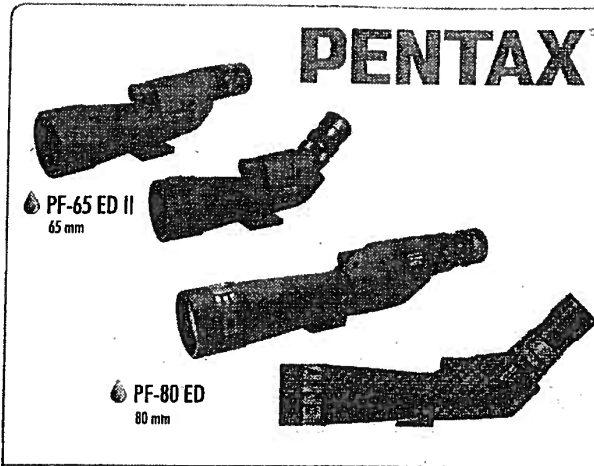
Pentax's popular line of spotting scopes offers high performance at an affordable price. Housed in a lightweight magnesium-alloy body, the Pentax ED offers optimum optical resolution by incorporating extra-low dispersion (ED) glass. With fully multi-coated lenses, light transmission is maximized for clarity and contrast of details.

The PF-80 ED gathers a great amount of light to provide you with details of shorebirds or big game. When you want the optical excellence of Pentax in a portable package, the PF-65 ED II is the size for you. All of these scopes are available with or without a zoom eyepiece and will accept a variety of 1.25 inch astronomical eyepieces.

PF-80 ED and PF-65 ED II Features: Extra-low dispersion (ED) glass, fully multi-coated, BaK-4 prisms, magnesium alloy body, eyecup twists, rubber armor, sunshade, waterproof, fogproof (nitrogen gas). Included: View-through case, objective lens cap. Straight or angled spotting scope body.

Pentax Premium Eyepieces

Expand the capability of your Pentax scope beyond the versatile Pentax SMC zoom eyepiece with the XW fixed power eyepieces. All of the eyepieces from Pentax are fully multi-coated, contain high-quality glass elements, and offer generous eye relief.

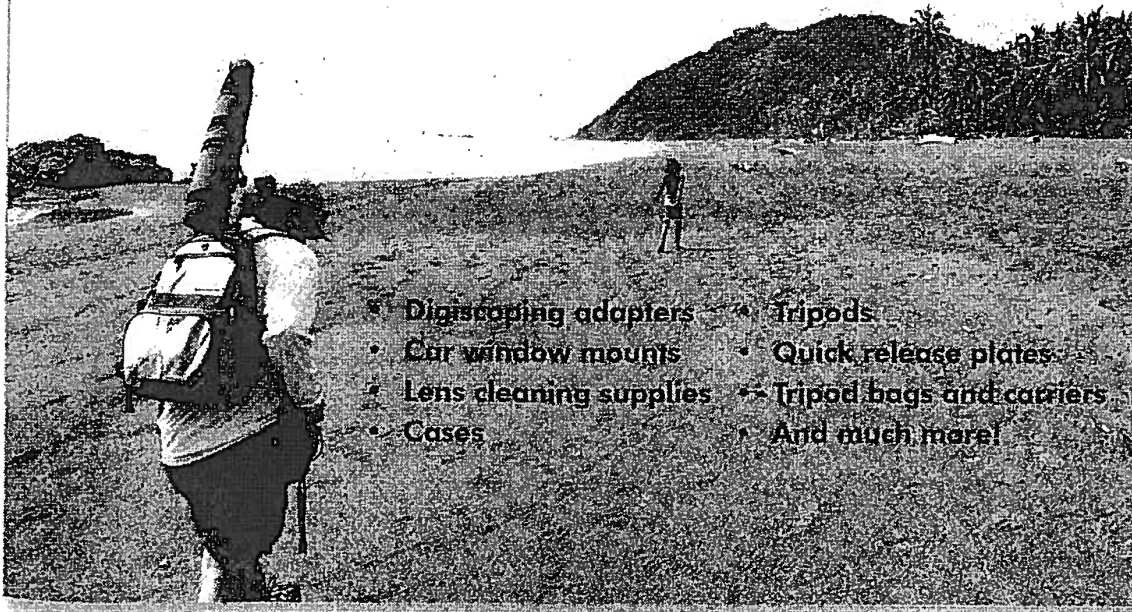


PF-80 ED Scope 80 mm					PF-65 ED II Scope 65 mm				
Eyepiece Item #	SMC Zoom Package	*XW20	*XW14	*XW10	Xf Zoom Package	*XW20	*XW14	*XW10	
Eyepiece	21-43x	27x	37x	57x	20-40x	19.5x	28x	39x	
Eye Relief	22-48 mm	20 mm	20 mm	20 mm	11-15 mm	28 mm	28 mm	28 mm	
Field of View (1000 Yards)	93-49.5'	135'	99'	72'	117-51'	183'	132'	93'	
Close Focus	19.0'				16.4'				
Weight	56.4 oz.	*Straight scope magnifies from 20-40x, is 15.6" long and weighs 49.4 oz.			37.7 oz.	*Straight scope weighs 37.0 oz.			
Length	16.3"				10.6"				

Pentax Spotting Scopes

Spotting Scope Accessories

www.eagleoptics.com/spotting-scope-accessories



- Digiscoping adapters
- Car window mounts
- Lens cleaning supplies
- Cases
- Tripods
- Quick release plates
- Tripod bags and carriers
- And much more!

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SW02792

Swarovski Spotting Scopes

Swarovski Spotting Scopes

Swarovski limited lifetime warranty.

A passion for precision describes the level of quality Swarovski incorporates into its spotting scopes. From the razor-sharp images to the day-to-day functionality, customers love their Swarovski scope.

HD Glass Spotting Scopes

The HD scopes use fluoride-containing lenses to minimize color fringing, offer sharp, high-contrast images, and benefit digiscoping results. Fully multi-coated, Swarovski lenses optimize light transmission for the brightest view. You'll find the Swarovski coating keeps your view clear as it works to repel water and residue. An excellent close focus allows you to scope even in the backyard. Standard glass scopes are budget friendly, lighter in weight, and offer good light transmission.

65 mm or 80 mm

Swarovski lightened up the ATM and STM scopes using state-of-the-art magnesium technology in the scope bodies. Just like ounces, every millimeter of the objective lens counts as the scope gathers light. Digiscopers and observers glassing at long distances will benefit from the 80 mm objective lens. Swarovski excellence still shines through the images delivered by the 65 mm, and the smaller lens size is about 1/2 pound lighter.



SWAROVSKI
OPTIK






NEW The Swarovski Series

Swarovski's latest ATM / STM spotting scopes incorporate new magnesium technology for a noticeably lighter weight body.

Eyepiece	20x	30x	45x	60x	80x	100x
Eye Relief	17 mm	20 mm	18 mm	17 mm	17 mm	17 mm
Field of View (1000 yards)	180'	126'	84'	108-60'	138-89'	
Close Focus	10.0'					
Weight*	65 mm ATM: 34.2 oz (36.0 oz for HD)	80 mm ATM: 43.4 oz (45.2 oz for HD)				
Length	12.0"	14.0"				

*Weight given for angled models.

ATM/STM Spotting Scope Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas), Swarovski external lens coating. Included: Tethered eyepiece cover, objective lens cover. Eyepieces sold separately.

Spotting Scope Rail

Swarovski's new spotting scope rail employs a two-position support to stabilize the scope for vibration-free viewing and digiscoping. Designed to balance the scope with camera equipment attached, this rail also allows the scope to sit upright on a flat surface when not attached to a tripod. Easy to use, the rail features quick attach and release mechanisms and slides into place with the push of a button.

Swarovski DCA




Switching from observation to digiscoping is a breeze with the Swarovski DCA. Part of the adapter stays on the zoom eyepiece of your Swarovski scope and the other attaches to the filter threads of your digital camera. Call Eagle Optics or check our web site for complete details.



"Out of this world service! Lightning fast shipping!"

Competitive prices, straightforward sales, and great customer support are only some of the things our very satisfied customers mention.

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SW02793



Razor HD
85 mm

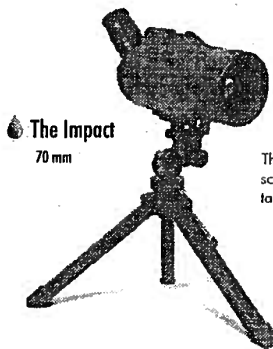


Skyline ED
80 mm

Also available
without ED glass.



Nomad
60 mm



The Impact
70 mm

The Impact spotting
scope comes with a
tabletop tripod.

	Razor HD 85 mm	Skyline 80 mm	Nomad 60 mm	Impact 70 mm
Eye Piece	20-60x	30x	20-60x	25-75x
Eye Relief	20-18 mm	18 mm	17-14 mm	18-15 mm
Field of View (1000 yds)	117-60'	112'	113-55'	114-51'
Close Focus	16.4'	16.4'	26.0'	33.0'
Weight	65.7 oz	68.0 oz*	36.1 oz	37.4 oz
Length	15.3"	17.2"	13.2"	10.0"

*Weight and length given for angled Skyline ED.
**Length given for angled Nomad.

Vortex Spotting Scopes

Vortex VIP unconditional lifetime warranty.

Razor HD

Built in Japan to specifications developed by Vortex engineers, the Razor HD exceeds performance expectations in this price range. You are sure to appreciate the Vortex HD system that enhances resolution, brightens image details, and delivers a distortion-free, edge-to-edge sharpness. The compact, magnesium-alloy body decreases weight and increases durability. A large 85 mm objective lens maximizes the available light at dawn or dusk.

Razor HD Digital Camera Adapter

Observe, photograph, observe, and don't miss a detail! This adapter converts the Razor HD to a high-powered telephoto lens—fits most point-and-shoot or digital SLR cameras.



Easy to use!

Razor HD Features: High-density (HD) glass, fully multi-coated, BaK-4 prisms, magnesium alloy body, dual focus, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (argon gas), ArmorLek® external lens armor. **Included:** Lens caps, view-through case, 20-60x eyepiece, 85 mm angled body. 30x eyepiece also available.

Skyline

Maximum power without high cost describes the Vortex Skyline. The Skyline performs with its light grabbing 80 mm objective lens and zooming power of the eyepiece. The dual-focus knob allows you to achieve a quick focus, then take your time sharpening every detail.

Skyline ED

Extra-low dispersion glass takes the performance up a notch by decreasing chromatic aberration and increasing resolution and color. With ED glass, you will enjoy better quality images when digiscoping.

Skyline and Skyline ED Features: Extra-low dispersion (ED) or standard glass, fully multi-coated, eyecup twists, dual focus, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece and objective lens caps, view-through case, tabletop tripod (non-ED models), 20-60x eyepiece. Straight or angled body with standard or ED glass.

MK-1 Digital Camera Adapter

Discover the pleasure of digiscoping with your Skyline. Great for use with most 3-4x optical zoom point-and-shoot digital cameras.



Nomad

Bench shooters, hunters, birders, and researchers have all come to value the solid results of the compact Nomad spotting scope. The Nomad is a strong performer at an economical price—you won't leave home without it!

Nomad Features: Fully multi-coated, BaK-4 prisms, multi-position eyecup, polycarbonate body, rubber armor, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece and objective lens caps, view-through case, 20-60x eyepiece. Straight or angled body.

Impact

Uniquely designed, uncommonly sized best describes the Impact scope. It is different from other scopes because it uses an optical mirror with a reflector-style lens system. Take along this 10-inch, 38-ounce package of scoping power, and the Impact is sure to boost your viewing options.

Impact Features: Fully multi-coated, polycarbonate body, rubber armor, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece and objective lens caps, padded case, tabletop tripod, 25-75x eyepiece, 70 mm angled spotting scope body.

Vortex Spotting Scopes

Zeiss Spotting Scopes

Zeiss Spotting Scopes

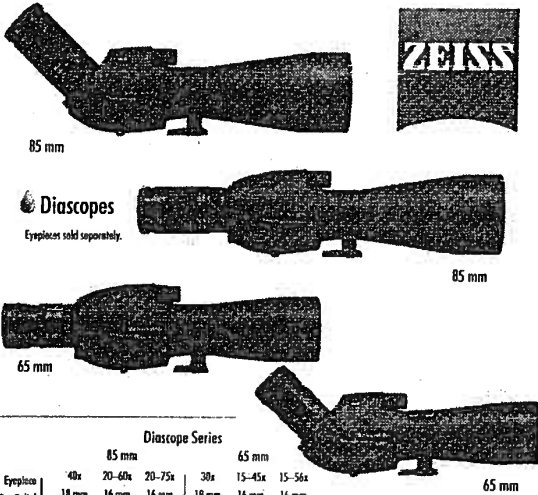
Zeiss limited lifetime transferable warranty.

Zeiss Diascopes

Cutting edge inventions are nothing new for Zeiss and its new generation Diascope houses the latest focusing technology. Zeiss introduces a dual speed focus within a single knob that automatically adapts the precision and fast focus to your needs. The optical excellence of the Diascope centers on the fluoride glass and multi-layer lens coatings that provide impressive brightness and contrast for images with little to no color fringing. With the protective LotuTec lens coating, your scope will shed water and dirt for unobstructed glassing.

The 85 mm Diascope offers excellent light gathering ability in low light conditions and over long distances. The compact size of the 65 mm Diascope size is a benefit when you when need to carry your equipment for long periods of time.

Diascope Features: Fluoride glass, fully multi-coated (T*), BaK-4 prisms, dual focus, sunshade, rotating tripod ring, waterproof, fog proof (nitrogen gas), LotuTec® external lens coating. **Included:** Eyepiece and objective lens covers. Straight or angled with 65 mm or 85 mm body and choice of green or silver finish. Eyepieces sold separately.



Diascope Series

	85 mm			65 mm		
Eyepiece	40x	20-40x	20-75x	30x	15-45x	15-56x
Eye Relief	18 mm	16 mm	16 mm	18 mm	16 mm	16 mm
Field of View (1000 yards)	120'	129-60'	120-48'	120'	168-72'	156-63'
Close Focus	16.3'	16.3'	16.3'	13.1'	13.1'	13.1'
Weight	59.8 oz	63.7 oz	63.7 oz	46.8 oz	50.7 oz	50.7 oz
Length	13.6"	13.6"	13.6"	11.8"	11.8"	11.8"

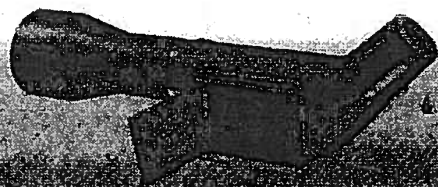
Weight includes scope body and eyepiece. Length is given for the scope body only.

Introducing the Victory PhotoScope 85

A new class of sport optic—combining long-range observation and photography in one seamless, high-performance unit. Zeiss innovation is alive and well, breaking the norm with a field of view that is up to 40% larger than through the traditional spotting scope.

The high-tech design of the Victory PhotoScope 85, offering a variable magnification of 15x to 45x, incorporates a complex lens featuring a triple zoom setting and fluorite elements for tack-sharp, high-contrast images. A beam splitter within the PhotoScope enables you to view the brilliant images through the included eyepiece or on a fold-out display screen. The electronic remote control lets you capture the picture while avoiding blurry images. Numerous manual setting options just top the list of features that offer advanced camera users the ultimate in freedom and creativity.

PhotoScope Warranty: Five years on optics and mechanics; two years on electronics.



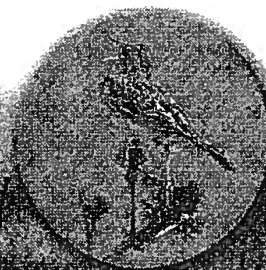
PhotoScope

PhotoScope

Eyepiece	85 mm
Eye Relief	15-45x
Field of View (1000 yards)	TBD
Close Focus	240-81'
Weight	16.5"
Length	6.5 pounds
	17.5"



Western Meadowlark



Grasshopper Sparrow

Gitzo Tripods

Gitzo limited lifetime warranty.

The GT 2542 L Tripod Legs

Expect optimum performance from the Gitzo Mountaineer tripod. This four-section tripod features a magnesium upper casting for weight reduction and provides solid support for spotting scopes, binoculars, and digital cameras. An ultra-low leg spread takes full advantage of Gitzo's Ground Level Set that allows you to remove the center column and take low-angle photographs.

GT 2542 Features: Carbon fiber legs, collar leg locks, multiple leg angles, reversible center column, weight hook.

The GT 1541 Tripod Legs

Ever since Gitzo launched the Mountaineer tripod series in 1994, the standard for performance has remained high—and the Gitzo 1541 tripod legs are no exception. Updated casting with three leg positions makes these compact tripod legs even more desirable.

GT 1541 Features: Carbon fiber legs, collar leg locks, multiple leg angles, reversible center column, weight hook.

The G 2180 Tripod Head

Smooth, refined handling is just what you need when birdwatching—you'll enjoy the ergonomic design of the G2180 tripod head. Gitzo engineering puts this compact, low-profile tripod head in a class of its own. The G2180 features muted colors and surfaces that won't reflect light and give your position away to the wildlife you are watching.

G 2180 Features: Quick release plate, counterbalancing head.

Manfrotto Tripods

Manfrotto provides a 2-year limited warranty plus an additional 3-year warranty with online registration.

The 7301 YB Tripod Kit

Meeting the needs of travelers, this reliable tripod is easily packed into a suitcase and carried for long distances. The compact legs (20.1 inches) only weigh 3.7 pounds yet extend to 56.3 inches and can be set independently in two different angle positions. Topping off the legs is an aluminum three-way head with a short handle for easy panning.

7301 YB Features: Aluminum legs, flip lever leg locks, multiple leg angles, reversible center column, 3-way head with separate pan and tilt locks. Included: Quick-release plate, carry bag.

The 055 XB Tripod Legs

Versatility is what this Manfrotto aluminum tripod brings you. Portable enough to take out in the field, the 055 XB is strong enough to support digital cameras, spotting scopes, and binoculars.

055 XB Features: Aluminum legs, lever leg locks, leg wraps, multiple leg angles, reversible center column, low angle adapter.

The 190 XB Tripod Legs

Manfrotto's sturdy 190 XB tripod is a redesign resulting in a lighter, more compact tripod with improved ergonomics of the leg angle release mechanism and quick-action leg locks. Leg angle presets work to increase stability in bad weather and on uneven terrain.

190 XB Features: Aluminum legs, lever leg locks, leg wraps, multiple leg angles, reversible center column, low angle adapter.

The 128 RC Micro Fluid Tripod Head

This is our most popular Manfrotto head, featuring excellent smooth fluid action. Enjoy easy control when viewing through spotting scopes, binoculars, or digital cameras.

128 RC Features: Quick-release plate.

	Gitzo		Manfrotto		
	1541	2542	7301 YB	190 XB	055 XB
Maximum Height	62.6"	68.9"	56.3"	57.0"	70.1"
Minimum Height	6.7"	6.7"	14.2"	3.2"	2.8"
Maximum Load	17.6 pounds	26.4 pounds	7.7 pounds	11.0 pounds	15.4 pounds
Folded Height	21.3"	24.0"	20.1"	20.9"	24.0"
Weight	2.5 pounds	3.1 pounds	3.7 pounds	4.0 pounds	5.1 pounds
Leg Sections	4	4	4	3	3
Multiple Leg Angles	Yes	Yes	Yes	Yes	Yes

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SW02796

More Tripods

Swarovski CT 101 Tripod Kit

Top strength is wrapped up in this lightweight, sturdy tripod. Just right for long hikes and tough climbs, Swarovski's CT 101 won't weigh you down. The smooth action of the FH 101 tripod head is a favorite in the field. The two-stage tripod legs and flip-up leg locks adjust quickly and silently.

CT 101 Features: Carbon fiber legs, quick-release plate, lever leg locks, leg wraps, multiple leg angles, reversible center column. **Included:** Swarovski 1-year warranty.

Vortex Pro GT

Surprisingly affordable, the Pro GT provides solid support for spotting scopes. This tripod is an ideal choice if you're on a tight budget or need a reliable back-up tripod for your travels.

Pro GT Features: Aluminum legs, quick-release plate, lever leg locks, leg wraps, multiple leg angles. **Included:** Vortex 3-year limited warranty.

Vortex Shooting Stand

Want to travel light? The Vortex Shooting Stand is ideal for watching wildlife from a picnic table on your deck or for fast setup. At just 1.5 pounds, you can easily take the Shooting stand on any trail.

Shooting Stand Features: Aluminum legs. **Included:** Vortex 3-year limited warranty.

Car Window Mounts

Eagle Optics Car Window Mount

Use the Eagle Optics Car Window Mount to view wildlife from the comfort of your car. Mount your scope to the 1/4-inch tripod thread, and you're ready to go!

Shooting Stand Features: Eagle Optics 3-year limited warranty.

Manfrotto 243 Car Window Pod / Clamp

View wildlife from the warmth of your vehicle with Manfrotto's 243 car window pod/clamp. This lightweight, sturdy support easily clamps onto your window and will accept Manfrotto tripod heads.

Shooting Stand Features: Manfrotto 2-year limited warranty plus an additional 3-year warranty with online registration.

Manfrotto Anti-Twist Spotting Scope Plate

Are you tired of your quick release plate coming loose in the field? Manfrotto designed the ingenious Anti-Twist Spotting Scope Plate to prevent unwanted rotation. Two rubber-padded bolts attach the 1/4-inch quick release plate to the bottom of most spotting scopes and keep your equipment secure. This plate will fit Manfrotto quick release tripod heads sold by Eagle Optics.



Tripod Questions? Let us help!



Eagle Optics knows tripods and takes the guesswork out of selecting a tripod with:

Portability
Durability
High Performance
Value

E-mail: info@eagleoptics.com

Call: 1-800-289-1132



Swarovski
CT 101 Tripod with
FH 101 Tripod Head



Vortex
Pro GT Tripod



Vortex
Shooting Stand



Eagle Optics
Car Window Mount

Manfrotto
Car Window Pod / Clamp



	Swarovski	Vortex
	CT 101	Pro GT
Maximum Height	70.9"	63.0"
Minimum Height	16.1"	23.0"
Maximum Load	11.0 pounds	9.0 pounds
Folded Height	27.5"	24.5"
Weight	4.4 pounds	5.8 pounds
Leg Sections	3	3
Multiple Leg Angles	Yes	Yes

Questions about digiscoping?

Digiscoping

What is digiscoping?

Digiscoping is a unique kind of photography using a digital camera and spotting scope. Now you can expand your ability to photograph the wonders of nature by putting your digital camera to work.

If you plan to invest in a spotting scope for digiscoping, the best results will come from high quality optical systems featuring High Definition (HD), Extra-low Dispersion (ED), Apochromatic (APO) glass, or Fluoride elements.

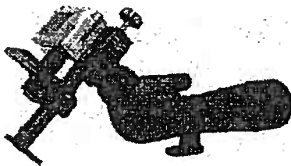
What do you *really* need for digiscoping?

Many people capture incredible images by simply holding their point-and-shoot digital camera up to the eyepiece of a spotting scope. Digital cameras that work for digiscoping have a 3-4x optical zoom and compact bodies.

Using the appropriate adapter can steady your camera.

Vortex Universal Digital Camera Adapters

These universal adapters allow you to connect a digital point-and-shoot camera to a variety of spotting scopes.



The Vortex Universal Digital Camera Adapter attaches to the eyepiece of a spotting scope. Measure the outside diameter (OD) of the spotting scope eyepiece to choose the appropriately-sized Vortex adapter bracket.

Call Eagle Optics at 800-289-1132 for answers to your digiscoping questions.



Small DCA

Fits 28-45 mm Eyepieces (OD)

Meopta S1 75 Standard and APD Models
Nikon 50 mm Fieldscope with 13-30x Zoom
Nikon 60 mm Fieldscope with 20-45x Zoom

Nikon 82 mm Fieldscope with 25-56x Zoom
Vortex 60 mm Nomad
Vortex 70 mm Impact



Large DCA

Fits 43-65 mm Eyepieces (OD)

Bushnell 60 mm Elite
Bushnell 70 mm Elite
Bushnell 80 mm Elite
Bushnell 60 mm Legend Ultra HD
Bushnell 80 mm Legend Ultra HD
Bushnell 60 mm Natureview
Celestron 80 mm Ultima ED
Kowa 60 mm with 20-60x Zoom
Kowa 66 mm with 20-60x Zoom
Kowa TSN 77 mm
Kowa TSN 88 mm
Kowa TSN 82 SV
Leica 65 mm Televid APO
Leica 82 mm Televid APO

Nikon 65 mm EDG
Nikon 85 mm EDG
Nikon 50 mm Fieldscope with 13-40x Zoom
Nikon 60 mm Fieldscope III with 20-60x Zoom
Nikon 82 mm Fieldscope with 25-75x Zoom
Nikon 65 mm Prostaff
Nikon 82 mm Prostaff
Pentax PF-65 ED II
Pentax PF-80 ED
Swarovski 65 mm ATN/STM
Swarovski 80 mm ATN/STM
Vortex 80 mm Skyline and Skyline ED
Zeiss 65 mm Diascope
Zeiss 85 mm Diascope

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Questions?

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March 2010

Prices and availability subject to change without notice or obligation.

Product Product Code Price

Atlas Optics

Intrepid ED 10x42	299	\$359.99
Intrepid ED 8x42	295	\$349.99
Radian 10x42	R31	\$139.99
Radian 8x42	R40	\$129.99
Sky King 10x42	SK143	\$209.99
Sky King 8x42	SK142	\$199.99

Bushnell

Elite ED 8x42	620042ED	\$589.00
Elite ED 10x42	620142ED	\$599.00
Elite Custom 7x26	630726	\$249.95
Excursion EX 8x36	243606	\$169.99
Excursion EX 10x36	243610	\$179.99
Excursion EX 8x42	244208	\$199.99
Excursion EX 10x42	244210	\$199.99
Marine 7x50 (Digital Compass)	137507	\$219.00
Legend Ultra HD 8x36 Camo	190336	\$249.95
Legend Ultra HD 10x36 Black	191036	\$249.95
Legend Ultra HD 8x42	190972	\$249.95
Legend Ultra HD 10x42	191072	\$249.95
NatureView 8x42 Roof	223642	\$119.00
NatureView 10x42 Roof	2221042	\$129.00
NatureView 8x42 Porro	152000	\$109.00

Canon

Image Stabilized 10x30	2077002	\$399.99
Image Stabilized 12x36 II	6332002	\$699.99
Image Stabilized 10x42 I	01858012AA	\$1,199.99
Image Stabilized 15x50	6636002	\$999.99
Image Stabilized 18x50	7424002	\$1,199.99

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Energy 8x21 Lyril (Red)	LXA-821	\$49.99
Energy 8x21 Ocean (Green)	OCEAN-821	\$49.99
Energy 8x21 Star (Silver)	S180-821	\$49.99
Energy 8x21 Sun (Yellow)	SUN-821	\$49.99
Energy 8x21 Moon (Blue)	MOON-821	\$49.99
Triumph 7x35 Porro Prism	THP735	\$69.99
Triumph 8x25 Porro Prism	THP825	\$69.99
Triumph 8x25 Roof Prism	THP825R	\$69.99
Triumph 10x25 Porro Prism	THP1025	\$69.99
Triumph 10x25 Roof Prism	THP1025R	\$69.99
Triumph 8x42 Porro Prism	THP842	\$79.99
Triumph 10x50 Porro Prism	THP1050	\$89.99
Dental 8x42	D082	\$109.99
Dental 10x42	D102	\$169.99
Ranger SRT 8x32	SRT-0832-1	\$299.99
Ranger SRT 8x32	SRT-0832-2	\$309.99
Ranger SRT 10x42	SRT-1042A	\$329.99
Ranger SRT 10x42	SRT-1042B	\$339.99
Ranger SRT 12x50	SRT-1250-1	\$349.99
Ranger SRT 12x50	SRT-1250-2	\$359.99
Raven 8x32	8532	\$119.99
Raven 8x42	8542	\$129.99

Fujinon

Polaris 7x50 FMT-SX	7107502	\$529.00
Polaris 10x70 FMT-SX	710762	\$549.00
Polaris 10x70 FMT-SX	710760	\$589.00
Techno-Stabil 12x32	7501232	\$769.00
Techno-Stabil 14x40	7611440	\$1,099.00

Kowa

BD 8x25	BD25-BGR	\$285.00
BD 10x25	BD25-10GR	\$300.00
BD 8x32	BD32-B	\$449.00
BD 10x32	BD32-10	\$469.00
BD 8x42	BD42-BGR	\$529.00
BD 10x42	BD42-10GR	\$539.00
Genesis 10x33	GN33-10	\$1,160.00
Genesis 8x33	GN33-B	\$1,160.00
Genesis 8.5x44	GN44-B	\$1,200.00
Genesis 10.5x44	GN44-10	\$1,439.00

Leica

Ultravid HD 8x42	A0290	Call
Ultravid HD 7x42	A0292	Call
Ultravid HD 10x42	A0291	Call
Ultravid HD 8x42	A0293	Call
Ultravid HD 8x50	A0295	Call
Ultravid HD 10x42	A0294	Call
Ultravid HD 10x50	A0296	Call
Ultravid HD 12x50	A0297	Call
Ultravid 8x42 BL (Leather)	A0271	Call
Ultravid 10x42 BL (Leather)	A0272	Call
Ultravid 8x20 BCR	A0292	Call
Ultravid 10x25 BCR	A0253	Call

Leopold

Golden Ring HD 8x42	82910	\$779.99
Golden Ring HD 10x42	82916	\$799.99
Northern 8.5x45	82795	\$549.00
Northern 10.5x45	85905	\$579.00
Primeval 8x42	8454	\$449.00
Primeval 10x42	84514	\$449.00
Mojave 8x42 (Black)	82106	\$329.99
Mojave 10x42 (Black)	82115	\$349.99
Mojave 10x50	85815	\$399.00
Mojave 12x50	88926	\$429.00
Kalmat 8x32	86410	\$329.00
Kalmat 8x32	86420	\$340.00
Kalmat 10x32	86430	\$360.00
Cascades 8x42 Roof	83530	\$359.99
Cascades 10x42 Roof	83536	\$379.99
Rogue 8x25	89220	\$89.00
Rogue 10x25	89226	\$99.00
Rogue 8x42	85550	\$149.00
Rogue 10x42	85556	\$159.00
Yosemite 8x30 (Black/Natural)	81786/17A	\$79.95
Yosemite 8x30 (Pink Mossy Oak)	85900	\$95.00
Yosemite 8x30 (Black/Natural)	82115/82126	\$99.95
Yosemite 8x30 (Blaze Mossy Oak)	85203	\$129.00
Yosemite 8x30 (Blaze Mossy Oak)	85206	\$129.00

Meopta

MeoPro 6.5x32	623400	\$349.99
MeoPro 8x42	623410	\$449.99
MeoPro 10x42	623480	\$499.99

Minox

APC 8x10x45	62184	\$1,099.00
APC HG 8x45	62183	\$1,049.00
BL 8x32 BR	62149	\$349.00
BL 8x42 BR	62147	\$379.00
BL 8x56 BR	62165	\$799.00
BL 13x56 BR	62190	\$829.00
BV BRW 8x28	62171	\$149.00
BV BRW 10x25	62176	\$159.00
CB BL 8x44	62186	\$499.00
CB BL 10x44	62186	\$499.00
HG 8x30 BR	62188	\$1,299.00
HG 8x43 BR	62199	\$1,349.00
HG 10x43 BR	62190	\$1,399.00
HG 8.5x52 BR	62191	\$1,099.00
HG 10x52 BR	62195	\$1,099.00

Nikon

Action Extreme 7x35 ATB	7237	\$114.99
Action Extreme 8x40 ATB	7238	\$129.99
Action Extreme 7x60 ATB	7239	\$134.99
Action Extreme 10x50 ATB	7245	\$149.99
Action Extreme 12x50 ATB	7246	\$159.99
Action Extreme 16x50 ATB	7247	\$179.99
Monarch 8x30 ATB	7613	\$229.99
Monarch 10x30 ATB	7614	\$249.99
Monarch 8.5x56 ATB	7617	\$369.99
Monarch 10x56 ATB	7618	\$419.99
Monarch 12x56 ATB	7619	\$439.99
Monarch III 8x42	7624	\$279.99
Monarch III 10x42	7625	\$299.99
Monarch III 12x42	7626	\$329.99
Monarch X 8.5x45	7632	\$379.99
Monarch X 10.5x45	7633	\$399.99
EDG 8x32	7643	\$1,749.99
EDG 10x32	7644	\$1,799.99
EDG 7x42	7640	\$1,799.99
EDG 8x42	7641	\$1,899.99
EDG 10x42	7642	\$1,999.99
Prostaff 8x25	7483	\$99.00
Prostaff 10x25	7484	\$119.99
Prostaff 12x25	7486	\$129.99
Trialblazer 8x25 ATB	8217	\$79.99
Trialblazer 10x25 ATB	8218	\$89.99
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DCF NV 10x36	62497	\$218.00
DCF LV 8x28	62590	\$218.00
Pspilo 6.5x21	62215	\$119.00
Raptor 6.5x21	62210	\$129.00

Binoculars

Product Product Code Price

DCF HR 8x42	62553	\$299.00
DCF HR 10x42	62554	\$329.00
DCF WP II 8x42	62551	\$339.00
DCF WP II 10x42	62552	\$359.00
DCF SP 8x32	62618	\$499.00
DCF SP 8x43	62615	\$549.00
DCF SP 10x43	62616	\$599.00
DCF SP 10x50	62617	\$699.00
DCF ED 8x32	62622	\$799.00
DCF ED 8x43	62623	\$899.00
DCF ED 10x43	62624	\$999.00
DCF ED 10x50	62625	\$1,049.00

Steiner

Predator CS 10x42	250	\$799.99
Predator CS 12x42	252	\$849.00
Merlin 8x32	438	\$429.99
Safari Pro 8x28	231	\$179.99
Safari Pro 10x28	235	\$199.99
Safari Pro 8x30	444	\$189.99
Merlin 8x42	448	\$499.00
Merlin 10x42	458	\$599.00
Merlin 10x50	430	\$749.99
Peregrine XP 8x44	604	\$1,599.99
Peregrine XP 10x44	614	\$1,629.99

Swarovski

EL 8x32	32000	Call
EL 10x32	32010	Call
EL 8x42 Swarovision	34100	Call
EL 10x42 Swarovision	34110	Call
Pocket 8x20 Traveler	46008 / 46108	Call
Pocket 10x25 Traveler	46010 / 46110	Call
SLCnew 8x50	58129	Call
SLCnew 8x42	58109	Call
SLCnew 7x50	58171	Call
SLCnew 10x42	58110	Call
SLCnew 8x50	58161	Call
SLCnew 10x50	58151	Call
SLCnew 15x55	58191	Call
SLCnew 8x56	58181	Call

Vortex

Kuban 15x56 HD	K16	\$1,199.99
Crossfire 8x32	CRF-328	\$99.99
Crossfire 10x32	CRF-321	\$109.99
Crossfire 8x42	CRF-4208	\$139.99
Crossfire 10x42	CRF-4210	\$149.99
Diamondback 7x50	D736	\$199.99
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Diamondback 10x50	D5010	\$249.99
Diamondback 12x50	D5012	\$259.99
Diamondback 8x28	D2808	\$139.99
Diamondback 10x28	D2810	\$149.99
Vanguard 8x20	VNQ-0826	\$119.99
Vanguard 10x28	VNQ-1028	\$129.99
Fury 8x32	FRY-3365	\$259.99
Fury 8x32	FRY-3368	\$269.99
Fury 10x32	FRY-3310	\$279.99
Fury 8x42	FRY-4308	\$299.99
Fury 10x42	FRY-4310	\$309.99
Fury 12x42	FRY-4312	\$309.99
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Razor 10x42	RZR-1042EU	\$179.99
Razor 8.5x50	RZR-8550EU	\$189.99
Razor 10x50	RZR-1050EU	\$199.99
Razor 12x50	RZR-1250EU	\$209.99
Splinter 8x32	SPR-2585	\$139.99
Splinter 10x32	SPR-3210	\$149.99
Viper 8x32	VPR-3208	\$269.99
Viper 10x32	VPR-3208	\$279.99
Viper 8x42	VPR-3210	\$279.99
Viper 10x42	VPR-08-VX	\$339.99
Viper 12x42	VPR-12-VX	\$349.99
Viper 8.5x50	VPR-85-VX	\$249.99
Viper 10x50	VPR-10-VX	\$269.99
Viper 8x28	V208	\$219.99
Viper 10x28	V210	\$229.99
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Vol. 24 - No. 1

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Black Mountain PC 4x4 ATX

It's a full size of a mountain, they always think Mountain is ideal for a multitude of uses.

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When an birding enthusiast returns, the most valuable of personal optical equipment for birding, there are situations when you'll find a binocular with higher or lower magnification or perhaps even a different type of eyepiece.

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Inside this Catalog



Look for this icon and find new products quickly, then read a brief review of the series. You'll find the specifications for binoculars, spotting scopes, monoculars, and rangefinders listed in a chart like the one shown here.

Binocular	
Model	
Eye Relief	19.5 mm
Close Focus	5'
Field of View (1000 Yards)	336'
Height	5.75"
Width	5.1"
Weight	23.6 oz



Waterproof optics are sealed with O-rings to prevent moisture, dust, and debris from getting inside the optical barrel. Fogproof optics are filled with nitrogen or argon gas to inhibit internal fogging.

Do optics terms confuse you?

Turn to pages 24-25 for helpful, informative explanations about the world of optics.



Atlas Optics Binoculars

Atlas Optics Binoculars

Atlas Optics unlimited, unconditional lifetime warranty.

Intrepid ED

The Atlas Optics Intrepid ED shows you details you've never discovered before. With the benefits of extra-low dispersion glass and fully multi-coated lenses for bright, high-quality images, the Intrepid ED is sure to please wherever the trail takes you. An exceptionally wide field of view makes you feel like you just stepped into the action, and the ergonomically pleasing open-hinge design allows you to easily follow wildlife for a long time. This is one binocular sure to carry its weight for a long time.

Intrepid ED Features: Extra-low Dispersion (ED) glass, fully multi-coated, phase corrected, rubber armor, magnesium alloy body, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), SeeClear™ exterior lens coating. Included: Rainguard, tethered objective lens covers, neck strap, case.

Sky King

Are you looking for high-flying performance at a budget-conscious price? Look no further than the Atlas Optics Sky King binocular. The Sky King will amaze you with its wide field of view, eye-popping brightness, and impressive color delivery.

Sky King Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (argon gas). Included: Rainguard, tethered objective lens covers, neck strap, case.

Radian

Surrounding you with the radiant details essential for discovery, the Atlas Optics Radian features all the desired optical features needed to deliver impressive light transmission and color resolution. The wide field of view will impress you with edge-to-edge sharpness found in more expensive binoculars.

Radian Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, twist-up eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (argon gas). Included: Rainguard, tethered objective lens covers, neck strap, case.

Intrepid ED

42 mm

NEW
36 mm

Sky King

42 mm



Radian

42 mm

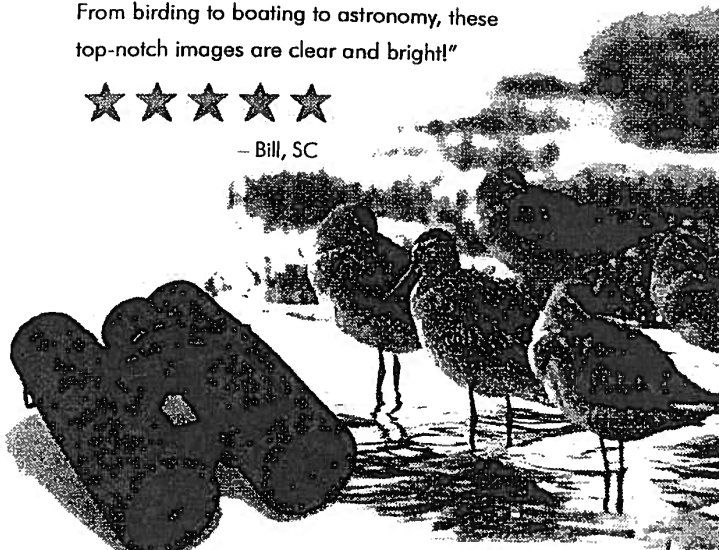
	Intrepid ED			Sky King		Radian	
	7x36	8x42	10x42	8x42	10x42	8x42	10x42
Eye Relief	16.8 mm	17 mm	15 mm	17 mm	15 mm	17.5 mm	15.5 mm
Close Focus	.51'	6.5'	6.5'	6.0'	6.0'	6.5'	6.5'
Field of View (1000 Yards)	47°	42°	34°	36°	32°	37°	30°
Height	5.8"	6.5"	6.5"	5.5"	5.5"	5.4"	5.4"
Width	4.8"	4.9"	4.9"	4.5"	4.5"	5.0"	5.0"
Weight	22.0 oz	26.6 oz	26.6 oz	26.7 oz	26.7 oz	23.0 oz	23.0 oz

Behold the Intrepid ED

"The Atlas Optics Intrepid ED is the best!
From birding to boating to astronomy, these
top-notch images are clear and bright!"



— Bill, SC



Bushnell Binoculars

Bushnell limited lifetime warranty.

Elite ED

With over 60 years of optical expertise at their disposal, the Bushnell engineers pack a significant performance upgrade into the Elite ED binocular. Already boasting a light transmission of 99.7 percent, the addition of ED glass delivers amazing color resolution and contrast to enhance the wonderfully bright views. Rainguard® provides the benefit of water-repellent protection to make sure wet weather won't interfere with your view.

Elite ED Features: Extra-low Dispersion (ED) glass, fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, magnesium body, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas), Rainguard® exterior lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Elite Custom Compact

Bushnell's best compact will amaze you as soon as you see the brilliant, crisp images the Elite 7x26 delivers. Take the Custom Compact to the theater or on vacation. The more you use it, the more you'll appreciate its excellent performance.

Elite Custom Compact Features: Fully multi-coated, BaK-4 prisms, rubber armor, twist-up eyecups, center focus, right eye diopter, Rainguard® exterior lens coating. **Included:** Eyepiece caps, neck strap, case.

Legend Ultra HD

Redesigned for the ultimate viewing experience, the Legend Ultra HD binocular incorporates ED Prime glass for amazing color resolution and contrast. You will appreciate the minimized color fringing, distinct details in low light conditions, and lightweight magnesium framework. Rainguard water-repellent coating, soft-touch grips, and a locking diopter only further the enjoyment of this binocular.

Legend Ultra HD Features: Extra-low dispersion (ED) glass, fully multi-coated (Ultra Wide Band coatings), phase corrected, BaK-4 prisms, magnesium body, rubber armor, eyecups twist, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Binocular harness strap, neck strap, case.

Customer Reviews

Read product reviews online from customers like yourself, or write your own review!



Average Customer Rating ★★★★★

Return Policy: 30 Day Money Back Guarantee

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Description	Specifications	Included
-------------	----------------	----------

Total Reviews: 1

Average Rating: ★★★★★

Excellent Binoculars - 01/12/2009

★★★★★ I purchased the Minox 7x26 binoculars for my father-in-law. He has been using them for a while now and he loves them. He says they are the best he has ever used. He is very happy with the purchase and I am very happy for him. The binoculars are very comfortable to use and the views are excellent. I highly recommend them to anyone looking for a good pair of binoculars.

Excursion EX

An open hinge design and gel-filled thumb grips make the Excursion EX extra comfortable to hold. With an exceptionally wide field of view, the EX is a top choice for observing fast-moving action. Fully multi-coated and phase-corrected optics deliver sharp, bright views, no matter the time of day. Waterproof, fogproof construction protects the Excursion EX in all types of weather.

Excursion EX Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, multi-position eyecups, locking center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Bushnell Binoculars

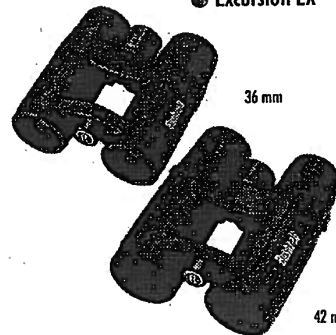


RAINGUARD® Lens Coating

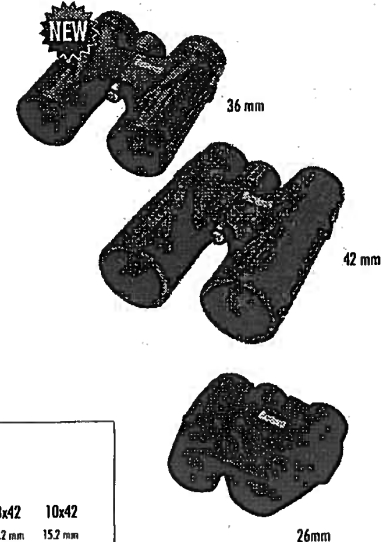
Repels water and residue on outer glass surfaces.



Excursion EX



Legend Ultra HD



	Elite ED			Excursion EX				Legend Ultra HD					
	8x42	10x42	7x26	8x36	10x36	8x42	10x42	8x26	10x26	8x36	10x36	8x42	10x42
Eye Relief	19.5 mm	15.5 mm	16 mm	17.8 mm	15.6 mm	17.2 mm	15.5 mm	14.0 mm	15.0 mm	15.4 mm	15.4 mm	17.2 mm	15.2 mm
Close Focus	8.0'	8.0'	7.0'	5.5'	5.5'	6.5'	6.5'	10.0'	10.0'	6.2'	6.2'	6.5'	6.5'
Field of View (1000 Yards)	330°	314°	363°	426°	321°	414°	330°	290°	262°	426°	341°	420°	340°
Height	TBD	TBD	3.5"	4.8"	4.8"	5.8"	5.8"	TBD	TBD	4.9"	4.9"	5.8"	5.5"
Width	TBD	TBD	4.5"	4.5"	4.5"	4.8"	4.8"	TBD	TBD	4.8"	4.8"	5.0"	5.0"
Weight	25.7 oz	26.1 oz	12.0 oz	21.5 oz	21.5 oz	22.1 oz	22.2 oz	14.0 oz	15.0 oz	20.6 oz	20.6 oz	22.4 oz	22.5 oz

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Find the Right Stuff at the Right Price ... www.eagleoptics.com 5

Image Stabilized Binoculars

Image
Stabilized
Binoculars

Hand tremors or rolling waves won't deter you from using binoculars when you choose image-stabilized binoculars from Canon. Boaters needing to scan long distances prefer the image stabilized binoculars featuring high magnification and large objective lenses.

Birders enjoy the manageable size and bright views of the 10x30 and 12x36. Whenever you are on the move, image-stabilizing binoculars will be your answer for bright, crisp views.

Canon

12x36 IS II



10x42 L IS

Canon Image Stabilized Binoculars

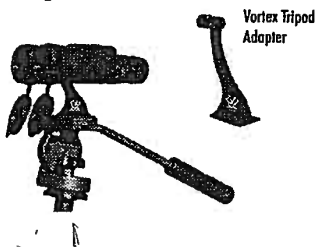
	10x30	12x36	10x42	15x50	18x50
Eye Relief	14.5 mm	14.5 mm	16 mm	15 mm	15 mm
Close Focus	13.8"	19.7"	8.2"	19.7"	19.7"
Field of View (1000 Yards)	314'	262'	340'	236'	194'
Height	5.9"	6.9"	6.9"	7.6"	7.6"
Width	5.0"	5.0"	5.4"	6.0"	6.0"
Weight	22.2 oz	23.3 oz	36.8 oz	41.7 oz	41.7 oz

See Fujinon's Techno-Stabi on page 10.

Binocular Accessories

Vortex Tripod Adapter

Use this tripod adapter to mount your binocular to any tripod or car window mount. Enjoy steady, hands-free viewing.

Vortex Tripod
Adapter

Vortex Binoc-Loc

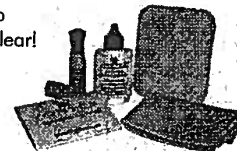
The Binoc-Loc keeps barrels perfectly positioned to your eyes for convenient viewing.



Vortex Binoc-Loc

Enjoy Crystal-Clear Views!

Clean lenses are critical for the best viewing—keep yours crystal clear!



Vortex Fog-Free Lens System

Check out your lens cleaning options
at www.eagleoptics.com

Eagle Optics Bino System Harness Strap

Lighten your load with the Bino-System harness strap. Slip the comfortable, adjustable strap over your shoulders and go! Slide binoculars and cameras up and out as needed.

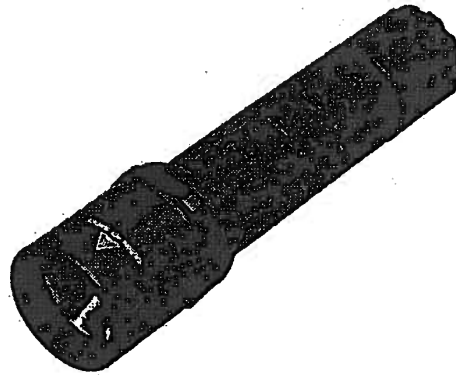
Eagle Optics Bino System
Harness Strap

Flashlights!

We were wowed by the excellent performance of the Surefire Flashlights and promise you will be too!

With high-performance technology and the ultimate in superior construction, you'll find Surefire to be the top choice for using at home, on the road, or in the field.

SUREFIRE



Surefire Flashlights—just a few of the many available at www.eagleoptics.com.

	Backup	Lumamax	Saint Minimus Headlamp	Titan	E2LAA Outdoorsman	G2	G2L	G2X Tactical	6PX Pro	6PX Tactical
Bulb Type	Incandescent	LED	LED	LED	LED	Incandescent	LED	LED	LED	LED
Dual Output Maximum (Low)	100 (5) Lumens	200 (15) Lumens	100 (1) Lumens	70 (1) Lumens	80 (3) Lumens	120 (65) Lumens	120 Lumens	200 Lumens	200 (15) Lumens	200 Lumens
Runtime Maximum (Low)	1.3 (37) Hours	2 (30) Hours	1.5 (50) Hours	1 (60) Hours	9 (60) Hours	.3 (1) Hours	2 Hours	2 Hours	2 (45) Hours	2 Hours
Barrel Diameter	1.25"	1.0"	—	.8"	1.0"	1.25"	1.25"	1.25"	1.25"	1.25"
Length	4.0"	5.4"	—	3.25"	6.6"	5.1"	5.2"	4.4"	5.2"	5.2"
Weight	2.8 oz	4.2 oz	3.3 oz	2.0 oz	4.9 oz	4.1 oz	4.4 oz	5.2 oz	5.2 oz	5.2 oz
Weatherproofing	Waterproof	Waterproof	Waterproof	Waterproof	Waterproof	Waterproof	Waterproof	Waterproof	Waterproof	Waterproof

Surefire Flashlights



Using slingshots to shoot birds is a sport for Nicaraguan children. When they traded their slingshots for binoculars, Optics for the Tropics used a hands-on program to teach the kids about birds. This is one of many ways Optics for the Tropics works to change attitudes toward wildlife as it educates Caribbean and Latin American residents on how to safeguard bird populations and their habitats.

Eagle Optics is delighted to partner with Optics for the Tropics and support its vital mission by providing sport optics to researchers, guides, and children. Link to us from www.opticsforthetropics.org, and we will donate five percent of sales generated to help Optics for the Tropics continue its important efforts.

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Find the Right Stuff at the Right Price ... www.eagleoptics.com 7

Eagle Optics Binoculars

Eagle Optics Binoculars

Eagle Optics warranty varies with model.

Ranger ED

The Eagle Optics Ranger ED binocular presents a feast for your eyes with rich, true colors and enhanced resolution that brings the elaborate beauty of nature into a well-defined image. A comfortable and ergonomic open-hinge design with thumb indentations, a smooth central focus, and an easily adjustable right eye diopter only add to your enjoyment of using this binocular.

Ranger ED Features: Extra-low Dispersion (ED) glass, dielectric prism coatings, fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), SeeClear™ lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case. Eagle Optics Platinum Protection lifetime warranty.

Ranger

Well known for its high performance, the Ranger now includes dielectric prism coatings for optimal light transmission and excellent color fidelity. Ranger owners especially favor the superior edge-to-edge sharpness, light weight, durable body, close focus, and affordable price. See for yourself why our customers love taking the Ranger on a hike down the road or a trip around the world.

Ranger Features: Dielectric prism coatings, fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case. Eagle Optics Platinum Protection lifetime warranty.

Optics For A Lifetime!

Reasonable Repair Cost—We Promise!

The Eagle Optics Platinum

Protection warranty covers

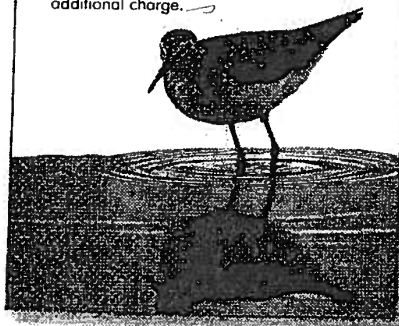
the Ranger ED, Ranger,

Shrike, Denali, and Kingbird

binoculars—forever. If you ever need

service, return the binocular to Eagle

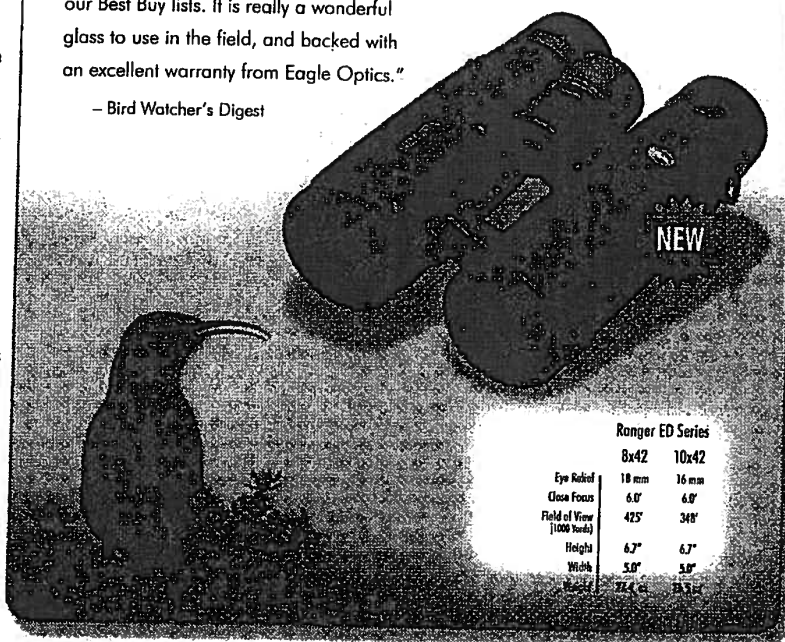
Optics for repair or replacement at no additional charge.



RANGER ED BINOCULARS

"The Ranger made both our Favorites and our Best Buy lists. It is really a wonderful glass to use in the field, and backed with an excellent warranty from Eagle Optics."

— Bird Watcher's Digest



Shrike

Just because the Eagle Optics Shrike sells for a budget-friendly price doesn't mean you'll suffer with dark, fuzzy images. As a matter of fact, the Shrike's image quality, strong build, and ample field of view will surprise you! Waterproof and fogproof protection means you don't have to pamper this binocular. Best of all, the Shrike comes with the Eagle Optics Platinum Protection unlimited, unconditional lifetime warranty.

Shrike Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case. Eagle Optics Platinum Protection lifetime warranty.

Denali

The Denali's solid chassis is built to keep pace with the avid outdoor explorer. Weighing only 21.9 ounces, the Denali is easy to carry and comfortable to use when scanning for long periods. Don't worry about rain or temperature—the Denali is protected with waterproofing and fogproofing.

Denali Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Kingbird

Beginner or experienced, young or old, and everyone in between will appreciate the performance of the new Eagle Optics Kingbird binocular. The highly regarded porro prism style of the Kingbird delivers an exceptionally wide field of view with sharp, rich three-dimensional views. Featuring twist-up eyecups and waterproof, fogproof construction, the Kingbird continues a classic tradition in a modern fashion.

Kingbird Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, carry case. Eagle Optics Platinum Protection lifetime warranty.

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The Kingbird—A Great Buy!

"The lightweight Kingbird is well-built with smooth focusing. Four stars, a best buy!"

—William, CO

Eagle Optics Binoculars

Triumph

Surprisingly bright and sharp, pleasantly lightweight, and economical describes the Eagle Optics full size Triumph. A great bang for your buck, the Triumph delivers an outstanding field of view. Multi-coated optics allow increased light transmission for illuminating views. Packed in a carrying case with lens caps and a neck strap, the Triumph arrives ready to head outdoors with you.

The slim barrels and double-hinged design of the 25 mm roof prism is perfect for slipping in a pocket when you venture outside, or keeping handy to check out the bird feeders.

Triumph Full-Sized Features: Multi-coated, BaK-4 prisms, eyecups roll, center focus, right eye diopter. **Included:** Eyepiece and objective lens caps, neck strap, case. Eagle Optics limited lifetime warranty and Eagle Advantage repair certificate.

Triumph Compact Features: Fully multi-coated, BaK-4 prisms, eyecups twist, center focus, right eye diopter, waterproof. **Included:** Neck strap, case. Eagle Optics limited lifetime warranty and Eagle Advantage repair certificate.

Energy

Pick up this little roof prism binocular for use on a daytime hike, at the football game, or in the theater. The Energy has multi-coated lenses for bright views and a double-hinged design that folds into an easily portable size. With five great colors to choose from and an affordable price, you will want to order several Energy binoculars—one for yourself and more for friends.

Energy Features: Multi-coated, eyecups roll, center focus, right eye diopter. **Color Choices:** Star (silver), Moon (blue), Sun (yellow). **Included:** Rainguard, neck strap, case. Eagle Optics limited lifetime warranty.

	Ranger Series				Denali		Shrike		Kingbird		Triumph Series			Energy
	8x32	8x42	10x42	10x50	8x42	10x42	8x42	10x42	6.5x32	8.5x32	Roof Prisms		Porro Prisms	8x21
	16 mm	19.5 mm	16 mm	19.5 mm	18 mm	14.5 mm	17.6 mm	13.6 mm	20 mm	14 mm	15 mm	10 mm	14 mm	8 mm
Eye Relief	3.0"	5.2"	5.2"	8.0"	7.0"	7.0"	13.1"	13.1"	15.0"	15.0"	6.6"	6.6"	13.0"	16.0"
Close Focus	393'	341'	314'	262'	408'	318'	341'	304'	410'	390'	348'	341'	430'	383'
Field of View (1000 Yards)	4.9°	5.8°	5.8°	6.7°	5.4°	5.4°	5.9°	5.9°	4.5°	4.5°	4.5°	4.5°	5.75°	3.75°
Height	4.8"	5.1"	5.1"	5.2"	5.0"	5.0"	4.9"	4.9"	5.7"	5.7"	4.3"	4.3"	7.1"	2.3"
Weight	19.2 oz	21.8 oz	21.6 oz	26.2 oz	21.9 oz	21.9 oz	23.2 oz	22.4 oz	17.3 oz	17.3 oz	9.1 oz	9.1 oz	22.8 oz	6.0 oz

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Fujinon Binoculars

Fujinon Binoculars

Fujinon warranty varies with binocular model.

Polaris


When you want the best binocular for marine or astronomy use, nothing surpasses the Fujinon Polaris FMT-SX binoculars. Fujinon applies special anti-reflection coatings to achieve the outstanding light transmission important for sharp details when viewing at a distance. Protected with waterproofing, fogproofing, and rubber armoring, these binoculars are highly valued by boaters and astronomers.

Polaris Features: Fully multi-coated, BaK-4 prisms, aluminum body, eyecups roll, rubber armor (select models), individual focus, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, objective lens caps, neck strap, (case for 10x50 FMT-SX). Fujinon limited lifetime warranty.

Techno-Stabi

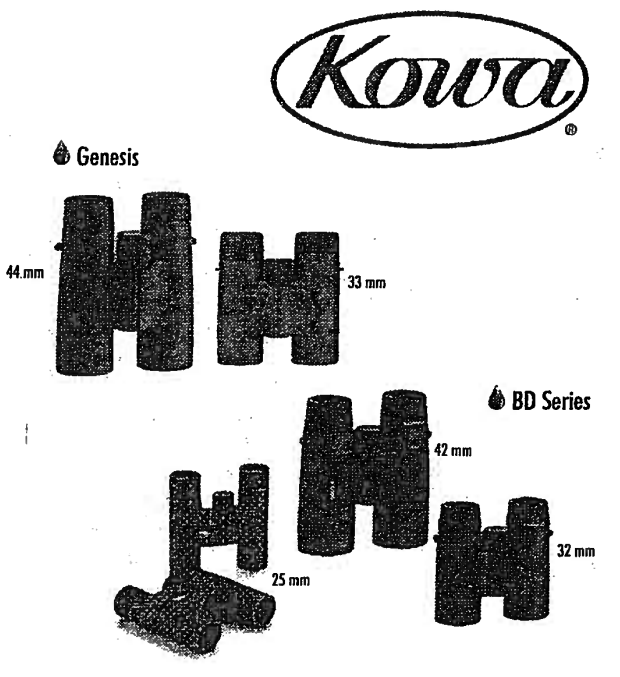
The image stabilization technology built into the Fujinon Techno-Stabi binocular delivers views free of the distortion caused by uncontrolled movement. Fujinon applies special anti-reflection coatings to achieve outstanding light transmission important for sharp details when viewing at a distance. Perfect for use around the water, the Fujinon Techno-Stabi is protected with waterproofing and fogproofing.

Techno-Stabi Features: Fully multi-coated, waterproof, fogproof (nitrogen gas). **Included:** Two AA batteries, rainguard, neck strap, case (hard case for 14x40). Fujinon 1-year warranty.



	Polaris			Techno-Stabi	
	7x50	10x70	16x70	12x32	14x40
Eye Relief	23 mm	23 mm	12.4 mm	15 mm	13 mm
Close Focus	28.0'	27.8'	36.0'	16.5'	16.5'
Field of View (1000 Yds.)	393'	229'	210'	263'	277'
Height	7.9"	11.25"	10.6"	7.0"	7.8"
Width	8.6"	9.75"	9.75"	5.6"	8.5"
Weight	(Listed Below)	76.2 oz	76.2 oz	37.8 oz	53.2 oz
7x50 Polaris	7x50 FMT-SX 50.1 ounces				
Weights:	7x50 FMT-SX 53.6 ounces (Armored)				
	7x50 FMT-SX 55.0 ounces (Armored / Compass)				

Kowa Binoculars



	Genesis				BD Series					
	8x33	10x33	8.5x44	10.5x44	8x25	10x25	8x32	10x32	8x42	10x42
Eye Relief	15 mm	15 mm	18.3 mm	16 mm	15 mm	17 mm	15 mm	15 mm	18.3 mm	17.6 mm
Close Focus	5.0'	5.0'	5.6'	5.6'	6.0'	6.0'	4.9'	4.9'	6.6'	6.6'
Field of View (1000 Yds.)	420'	357'	366'	324'	331'	263'	394'	315'	331'	315'
Height	5.6"	5.6"	6.5"	6.5"	4.4"	4.4"	4.9"	5.0"	5.8"	5.8"
Width	4.9"	4.9"	5.4"	5.4"	4.2"	4.2"	4.8"	4.8"	5.0"	5.0"
Weight	20.8 oz	20.8 oz	33.5 oz	34.0 oz	11.5 oz	11.5 oz	19.8 oz	19.9 oz	25.7 oz	26.3 oz

Kowa Binoculars

Kowa limited lifetime warranty.

Genesis

Kowa's top-performing Genesis binocular rewards you with fine details. By incorporating Prominar XD glass, your view through the Genesis benefits from enhanced resolution and reduced chromatic aberration. Fully multi-coated lenses and prisms provide excellent transmission of the light gathered through the objective lenses. The magnesium body of the Kowa Genesis is built tough for all weather conditions with waterproofing and fogproofing.

Genesis Features: Prominar XD glass, fully multi-coated, BaK-4 prisms, magnesium body, rubber armor, eyecups twist, center focus, locking right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, binocular harness strap, case.

BD

You can count on the waterproof and fogproof Kowa BD binoculars to perform well, regardless of the weather conditions. The Kowa BD compact is small in size, but not in performance. Select the Kowa BD mid-size binocular for great performance without extra bulk. Fully multi-coated optics and phase correction work together to deliver bright, sharp images with great color resolution.

BD Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece and objective lens caps, neck strap, case.

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Leica Binoculars

Leica limited lifetime warranty plus Leica's 3-year Passport Protection Plan.

Ultravid HD


Over 100 years of craftsmanship culminates in the impressive performance of the Leica Ultravid HD binocular. State-of-the-art design incorporates fluoride glass with anti-reflective coatings to enhance color resolution and increase light transmission. The optimized Leica focus knob functions smoothly regardless of temperature extremes. The AquaDura™ lens coating forces rain to roll off the lens surfaces, makes it easier to remove dirt and smudges, and provides better protection against scratching.

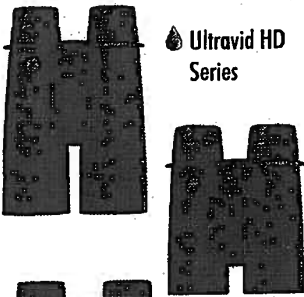
Ultravid HD Features: High-definition (HD) glass, fully multi-coated, phase corrected, dielectric prism coatings (Highlux-System HLS coatings), aluminum body, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas), AquaDura lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Ultravid Compacts

Leica's optical glass works behind the scene by reducing stray light and increasing light transmission and contrast. You'll applaud Leica's innovative HighLux-System (HLS) for such distinctive binocular quality... free of distracting color fringing. See for yourself what so many of our customers have already discovered—the elite performance of the Leica Ultravid, packaged in a compact size.

Ultravid Features: Fully multi-coated, phase corrected, dielectric prism coatings (Highlux-System HLS coatings), aluminum body, rubber armor or leather trim, eyecups twist, center focus, locking right eye diopter, fogproof, AquaDura lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case.





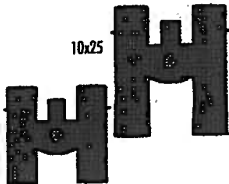
50 mm

42 mm

32 mm

AquaDura® Lens Coating
Repels water and residue on outer glass surfaces.

Ultravid HD Series



10x25

8x20

Ultravid Compacts

	Ultravid HD								Ultravid	
	8x32	10x32	7x42	8x42	10x42	8x50	10x50	12x50	8x20	10x25
Eye Relief	13.3 mm	13.2 mm	17 mm	15.5 mm	16 mm	17 mm	17 mm	13 mm	16 mm	15 mm
Close Focus	6.9'	6.6'	10.8'	9.8'	9.5'	11.5'	10.8'	10.5'	7.2'	10.5'
Field of View (1000 Yards)	404'	352'	420'	389'	336'	352'	352'	299'	341'	273'
Height	4.6"	4.8"	5.6"	5.6"	5.8"	7.1"	7.0"	7.1"	3.6"	4.4"
Width	4.6"	4.6"	4.8"	4.8"	4.8"	4.8"	4.9"	4.8"	4.4"	4.4"
Weight	18.9 oz	19.9 oz	27.2 oz	27.9 oz	26.5 oz	35.3 oz	35.3 oz	36.7 oz	8.5 oz	9.4 oz

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Our Customers Are Talking

"I would rate your customer service **A+** and will be referring everyone I know to your store."

— Jacob, KS

"This is the third pair of binoculars I have bought from Eagle Optics... I would not think of looking elsewhere."

— Bob, AZ

"Everyone I have talked to at your company has been courteous and professional, plus, your prices are very competitive!"

— John, CA

Expect the best.
We deliver!



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Leica Binoculars

Leupold Binoculars

Leupold Binoculars

Leupold warranty varies with binocular model.

Acadia

The Acadia binocular is a well-balanced roof prism binocular that will offer comfortable handling over prolonged periods of viewing. You will be surprised at this fully multi-coated binocular's bright views and budget-friendly price. Waterproof, fogproof, and protected by rubber armoring, the Acadia is meant for tough use.

Acadia Features: Fully multi-coated lenses, phase correction, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece and objective lens caps, neck strap, case. Leupold limited lifetime warranty.

Katmai

Once a customer has the Leupold Katmai in their hands, they recommend it to friends and come back for more. Optic users who demand portability without sacrificing quality appreciate the compact size, light weight, and bright views of the Katmai. Leupold incorporates L-coated prisms with 64 layers of anti-reflective coatings for extra light transmission you will notice.

Katmai Features: Fully multi-coated, phase corrected, rubber armor, multi-position eyecups, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, objective lens caps, neck strap, case. Leupold limited lifetime warranty.

Mojave

Delighting users with bright, crisp views, the Leupold Mojave delivers by capturing the fine details you crave. The open-hinged body and well-balanced weight of the Mojave feels great in your hands. Leupold incorporates a fully multi-coated lens system and mirror-coated prisms which take the Mojave's optical performance to a new level. With waterproofing, fogproofing, and rubber armoring, the Mojave is ready for whatever you demand.

Mojave Features: Fully multi-coated, phase corrected, rubber armor, multi-position eyecups, center focus, locking right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, objective lens caps, neck strap, case. Leupold limited lifetime warranty.



Acadia



42 mm

Cascades



42 mm

Mojave



50 mm



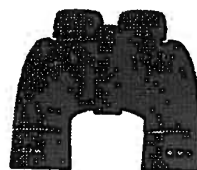
42 mm

Katmai

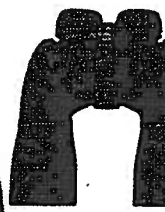


32 mm

Rogue



42 mm

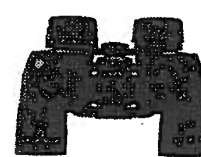


50 mm



25 mm

Yosemite



30 mm

	Acadia 8x-2		Mojave 8x-3			Katmai			Cascades 8x-2			Rogue				Yosemite 8x-1	
	8x42	10x42	10x42	10x50	12x50	6x32	8x32	10x32	7x42	8x42	10x42	8x25	10x25	8x42	10x50	6x30	8x30
Eye Relief	15.5 mm	15.5 mm	16 mm	17 mm	17 mm	19.2 mm	15.9 mm	10.2 mm	18 mm	18 mm	16 mm	15 mm	15 mm	16.5 mm	15 mm	18.5 mm	15.5 mm
Close Focus	7.5'	9.0'	7.5'	15.0'	9.9'	4.9'	4.9'	4.9'	9.9'	9.9'	9.9'	14.1'	14.1'	24.0'	30.0'	10.0'	11.0'
Field of View (1000 Yards)	394'	368'	326'	263'	220'	425'	335'	272'	389'	341'	267'	337'	294'	341'	285'	420'	389'
Height	6.0"	6.2"	5.6"	6.6"	6.6"	4.1"	4.1"	4.1"	5.5"	5.5"	5.5"	4.3"	4.3"	5.5"	7.0"	4.6"	4.5"
Width	TBD	TBD	4.8"	5.2"	5.2"	4.75"	4.75"	4.75"	5.2"	5.2"	5.2"	4.8"	4.8"	7.0"	7.5"	6.3"	6.3"
Weight	23.1 oz	23.5 oz	24.0 oz	28.2 oz	28.2 oz	18.2 oz	18.9 oz	18.2 oz	22.9 oz	22.9 oz	23.1 oz	12.7 oz	12.7 oz	23.5 oz	33.0 oz	17.0 oz	17.0 oz


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RANGEFINDERS

When accuracy matters, find out
with a rangefinder.

Visit www.eagleoptics.com
for rangefinders from:

- Bushnell
- Leica
- Leupold
- Nikon
- Swarovski
- Zeiss



Leupold Binoculars continued...

Cascades

Grab the lightweight Cascades for day-long exploration and delight in the views. Multi-coatings and phase correction ensure brightness. Waterproofing and fogproofing protect the internal optics.

Cascades Features: Multi-coated, rubber armor, twist eyecups, center focus, locking right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Neck strap, case. Leupold limited lifetime warranty.

Yosemite

Order one for yourself and a young explorer, and experience why the Leupold Yosemite creates excitement in the sport optics market. Describing the Yosemite optics as bright doesn't sufficiently depict the excellent light transmission of this economical porro prism binocular. A wide field of view only enhances the enjoyment of using the Yosemite. The small interpupillary distance accommodates a wide range of users. A choice of colors will help you outfit the whole family.

Yosemite Features: Multi-coated, rubber armor, eyecups twist, center focus, right eye diopter, waterproof. **Included:** Rainguard, objective lens caps, neck strap, case. Leupold limited lifetime warranty.

Rogue

A porro prism binocular is a classic favorite for its performance and value, and the Leupold Rogue delivers both. Expect bright views from the Rogue's fully multi-coated lenses. The locking focus conveniently holds the focus on one area during lengthy periods of viewing. The reverse porro prism design of the compact Leupold Rogue delivers convenience in a palm-sized body.

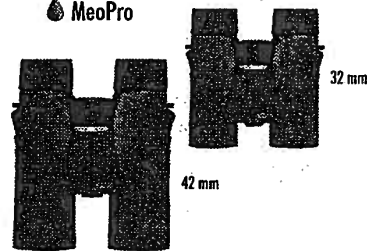
Rogue (Full Size) Features: Fully multi-coated, rubber armor, center focus, multi-position eyecups, right eye diopter, waterproof. **Included:** Rainguard, objective lens caps, neck strap, case. Leupold limited lifetime warranty.

Meopta MeoPro

For premium performance at the right price, the MeoPro is the way to go. With proprietary ion-assisted lens coatings, this binocular delivers an industry-leading light transmission of 99.8 percent. You'll also enjoy the precise focusing mechanism, generous eye relief, multi-position twist eyecups, 5-foot close focus, and wide field of view.

MeoPro Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, aluminum body, multi-position eyecups, center focus, right eye diopter on center focus wheel, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens caps, neck strap, case. Meopta lifetime transferable warranty.

MeoPro



MeoPro

	6.5x32	8x42	10x42
Eye Relief	19 mm	18 mm	18 mm
Close Focus	3.0'	5.0'	5.0'
Field of View (1000 Yards)	440'	365'	330'
Height	5.2"	6.0"	6.0"
Width	4.7"	5.0"	5.0"
Weight	21.0 oz	25.0 oz	26.0 oz



Meopta Binoculars

Minox Binoculars

Minox Binoculars

Minox 30-year limited warranty.

APO HG

Who knew a high-performance, top-quality binocular could weigh in at a comfortable 23.3 ounces? Made in Germany, the Minox APO-HG blends the quality of old-world craftsmanship with the newest technology available. Minox worked with glass engineers to perfect the glass composition for the Schott fluoride ED glass lenses. The apochromatically-corrected binoculars deliver a brilliant image free from color fringing. A single turn of the focus knob brings you from close-up to infinity, and a scale on the focus wheel measures the distance to the subject in your view.

APO HG Features: Extra-low dispersion (ED) glass, fully multi-coated (M* coatings), phase corrected, BaK-4 prisms, magnesium body, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), Minotec external lens coating. **Included:** Rainguard, neck strap, case, wooden storage box.

HG BR Binoculars

Aiming for performance at the highest level, the engineers at Minox created the high-grade HG binocular. With the advanced technology of a newly designed optical system and 21 layers of lens coatings, the HG offers you impressive light transmission. Aspherical lenses enhance the contrast and sharpness of the image from edge to edge. A single turn of the focus knob brings you from close-up to infinity. A scale on the focus wheel measures the distance to the subject in your view.

HG BR Binocular Features: Fully multi-coated (M* coatings), phase corrected (Minobright® coatings), BaK-4 prisms, magnesium body, rubber armor, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), Minotec external lens coating. **Included:** Neck strap, case.

BL BR Comfort Bridge

Minox aims to please with a 16 percent increase in field of view and a powerful light-gathering optical system that includes multi-coated lens elements for views in natural color. The rubber-armored, polycarbonate body and open-hinge design guarantees a comfortable, light feel in the hand. The 56mm objective lenses are excellent for astronomy and scanning long distances. A lightweight, polycarbonate body with ridged rubber armoring makes the BL BR easy to carry and comfortable to hold.

BL BR Features: Fully multi-coated, phase corrected, BaK-4 prisms, polycarbonate body, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Minox 8x25 Minoscope

The Minoscope—an Eagle Optics Staff Pick!

See more monocular choices
on page 26, or visit us at
www.eagleoptics.com.

**BV II BR**

Just like time, technology moves ahead, and the Minox BV II BR binocular keeps pace by incorporating new multi-coating technologies to deliver high levels of color and contrast. The black rubber armoring covers a strong chassis constructed of tough aircraft aluminum. Waterproof and fogproof, the BV II BR delivers beyond your expectations.

BV BRW Features: Multi-coated (M* coatings), phase corrected, BaK-4 prisms, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Neck strap, case.

MINOX

APO HG BR

43 mm

HG BR

52 mm

BL BR
Comfort Bridge

44 mm

BL BR

56 mm

BV II BR

42 mm

	APO HG		HG BR						BL BR Comfort Bridge						BL BR			BV II BR					
	8x43	10x43	8x33	8x43	10x43	8.5x52	10x52	8x33	8x44	10x44	8x52	10x52	8x56	13x56	15x56	8x25	10x25	8x42	10x42	8x56			
Eye Relief	19.5 mm	16.5 mm	16.5 mm	19.5 mm	16.5 mm	19.4 mm	19.5 mm	17.5 mm	19.5 mm	17 mm	22 mm	18 mm	20.8 mm	15.2 mm	17.4 mm	15.5 mm	15.5 mm	18 mm	15 mm	23 mm			
Close Focus	8.2"	8.2"	4.9"	8.2"	8.2"	11.5"	11.5"	8.0"	8.0"	8.0"	11.5"	11.5"	29.5"	23.0"	23.0"	4.9"	4.9"	3.9"	3.9"	8.2"			
Field of View (1000 yds)	394'	355'	443'	394'	355'	317'	317'	420'	410'	341'	341'	341'	326'	263'	215'	389'	289'	389'	341'	342'			
Height	6.5"	6.5"	5.3"	6.0"	6.0"	6.9"	6.6"	5.0"	6.0"	6.0"	7.0"	7.0"	6.7"	6.7"	7.7"	4.3"	4.3"	5.5"	5.5"	7.3"			
Width	5.2"	5.2"	5.2"	5.2"	5.2"	5.3"	5.3"	5.4"	5.0"	5.0"	5.8"	5.8"	5.7"	5.7"	5.7"	3.8"	3.8"	5.0"	5.0"	5.6"			
Weight	23.3 oz	23.3 oz	21.3 oz	22.9 oz	23.3 oz	27.3 oz	27.3 oz	22.9 oz	26.0 oz	26.0 oz	33.5 oz	33.5 oz	36.9 oz	38.1 oz	38.0 oz	9.1 oz	9.1 oz	27.5 oz	27.5 oz	40.4 oz			

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Nikon Binoculars

Nikon 25-year limited warranty plus Nikon's No-Fault Repair/Replacement policy.

EDG

Designed to push your viewing to the edge of darkness, the EDG is Nikon's flagship binocular. Engineered with the highly-acclaimed Nikon extra-low dispersion glass and multiple layers of anti-reflective coatings on every glass surface, the EDG delivers superior sharpness, color resolution, and brightness. The strong magnesium alloy body, waterproofing, and fogproofing means the EDG is ready for rugged use.

EDG Features: Extra-low dispersion (ED) glass, fully multi-coated, phase corrected, Dielectric prism coatings, magnesium alloy body, rubber armor, multi-position eyecups, center focus, locking right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, lens covers, neck strap, case.

Monarch X

The Monarch X joins the ranks of another Nikon binocular you will love! With Nikon's advanced dielectric, high-reflective, multilayer prism coating you won't head home until the last second of daylight. Solid construction is balanced across the ergonomic, open-hinged design. With the large central focus knob, you can quickly find subjects regardless of distance.

Monarch X Features: Fully multi-coated, phase corrected, dielectric prism coatings, rubber armor, multi-position eyecups, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Monarch ATB

Nikon's most well-known binocular now has dielectric prism coatings on the 42 mm models! With choices of objective lenses sized from 36mm to 56mm and magnifications from 8x to 12x, the Monarch fits a large variety of uses. The classic, bright Nikon views come from fully multi-coated optics and prisms. Try it and you'll see why this is Nikon's best seller.

Monarch III Features: Fully multi-coated, phase corrected, BaK-4 prisms, dielectric coatings (42mm models), rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers (caps on 36 mm), neck strap, case.

Nikon

Monarch X



45 mm



32 mm



42 mm

Monarch ATB



36 mm



56 mm

	EDG					Monarch X		Monarch ATB							
	8x32	10x32	7x42	8x42	10x42	8.5x45	10.5x45	8x36	10x36	8x42	10x42	12x42	8.5x56	10x56	12x56
Eye Relief	18.5 mm	17.3 mm	22.1 mm	19.3 mm	18 mm	28.6 mm	16 mm	17 mm	15 mm	19.6 mm	15.5 mm	15.4 mm	19.2 mm	17.4 mm	16.3 mm
Close Focus	8.2'	8.2'	9.8'	9.8'	9.8'	9.8'	9.8'	8.2'	8.2'	8.2'	8.2'	8.2'	32.8'	32.8'	32.8'
Field of View (1000 yards)	40°	34.1'	41°	40.3'	34.1'	33°	33°	36°	31.4'	33°	28°	26.2'	32.4'	31.5'	28°
Height	5.4"	5.4"	5.9"	5.8"	5.9"	6.1"	6.1"	4.9"	4.8"	5.7"	5.6"	5.7"	7.8"	7.8"	7.8"
Width	5.5"	5.5"	5.6"	5.6"	5.6"	5.5"	5.5"	5.1"	5.1"	5.0"	5.0"	5.0"	5.7"	5.7"	5.7"
Weight	23.1 oz	22.9 oz	27.7 oz	27.7 oz	27.9 oz	25.4 oz	25.7 oz	19.8 oz	19.9 oz	21.5 oz	21.5 oz	21.8 oz	40.2 oz	40.7 oz	41.6 oz

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Eagle Optics

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www.birddigiscaper.blogspot.com/



Nikon Binoculars

Nikon Binoculars

Action Extreme ATB

An economically priced binocular that doesn't compromise performance, the Nikon Action Extreme is a popular choice among customers. Naturalists love this binocular for its exceptionally wide field of view. A proven classic porro prism design, the Action Extreme's construction includes waterproofing, fogproofing, and rubber armoring.

Action Extreme Features: Multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable. **Included:** Rainguard, objective lens caps, neck strap, case.

ProStaff ATB

Another great Nikon binocular, the reverse porro, 25mm ProStaff is a consistent choice for customers wanting the brightest view without paying the highest price. NEW for 2011, the 42mm ProStaff 7 is added to the lineup. Nikon packs the excellent optical quality of the compact ProStaff into a 42mm, roof prism binocular with extra-long eye relief.

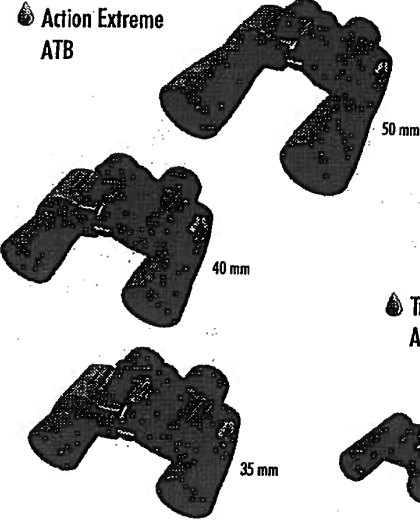
ProStaff Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, neck strap, case.

Trailblazer ATB

The Trailblazer binocular is sure to be a favorite for nature observation. A generous field of view helps you find and follow wildlife on the move. When it comes to getting a better look at butterflies and other insects, it's hard to beat the details you'll see from as close as eight feet. The waterproof and fogproof Trailblazer is a perfect choice to weather unexpected storms.


Trailblazer Features: Multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece caps, neck strap, case.

Nikon




Action Extreme ATB

40 mm
50 mm
35 mm



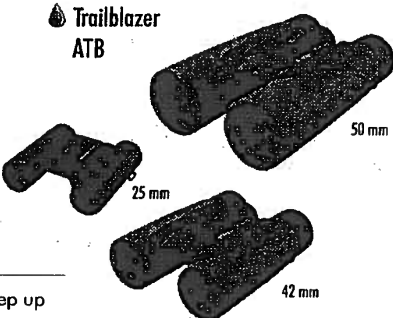
ProStaff ATB

25 mm



ProStaff 7 ATB

42 mm

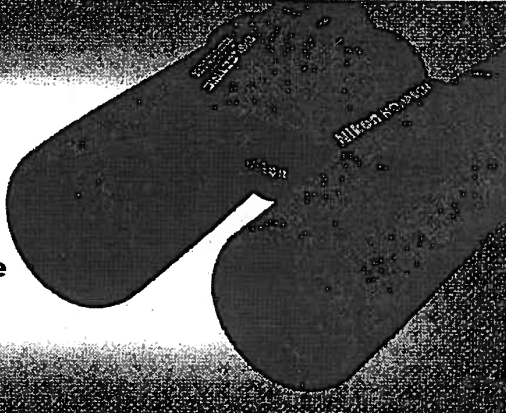


Trailblazer ATB

50 mm
25 mm
42 mm

Nikon's All Terrain binoculars (ATB) keep up with the most passionate explorer—no matter the weather conditions.

	Action Extreme ATB						ProStaff ATB			ProStaff 7 ATB		Trailblazer ATB				
	7x35	8x40	7x50	10x50	12x50	16x50	8x25	10x25	12x25	8x42	10x42	8x25	10x25	8x42	10x42	10x50
Eye Relief	17.3 mm	17.2 mm	17.1 mm	17.2 mm	16.1 mm	17.8 mm	15.5 mm	15.9 mm	15.9 mm	19.5 mm	15.5 mm	10 mm	10 mm	19.7 mm	15.4 mm	19.7 mm
Close Focus	16.4'	16.4'	23.0'	23.0'	23.0'	23.0'	9.2'	9.2'	9.2'	13.1'	13.1'	8.2'	11.5'	16.4'	16.4'	16.4'
Field of View (1000 Yards)	48°	43°	33°	34'	28°	18°	33°	26°	22°	33°	31°	42°	34°	36°	29°	29°
Height	4.3"	5.4"	7.0"	7.0"	7.0"	7.0"	3.9"	4.0"	4.1"	6.9"	6.8"	4.1"	4.1"	6.1"	5.9"	7.4"
Width	7.2"	7.4"	7.3"	7.3"	7.3"	7.3"	4.5"	4.5"	4.5"	5.1"	5.1"	4.5"	4.5"	5.2"	5.2"	5.5"
Weight	28.2 oz	30.1 oz	35.3 oz	36.0 oz	36.8 oz	36.7 oz	12.5 oz	12.9 oz	12.9 oz	TBD	TBD	9.9 oz	9.9 oz	23.6 oz	22.4 oz	29.1 oz



Nikon's New Monarch

Designed to outshine everything!

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Pentax Binoculars

Pentax Worry-Free lifetime warranty.

DCF ED

Pentax's best binocular tops the list for shoppers wanting superior brightness and edge-to-edge sharpness. The lightweight magnesium alloy body, 22 mm eye relief, and 6.6 foot close focus make this binocular a valuable tool in a variety of situations. You are sure to love the outstanding color resolution, tack-sharp images, and excellent light transmission.

DCF ED Features: Extra-low dispersion (ED) glass, fully multi-coated, phase corrected, BaK-4 prisms, magnesium alloy body, rubber armor, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

DCF SP

Don't doubt the performance of the mid-priced Pentax DCF SP. This binocular presents a remarkably bright and sharp view of the action from sunrise to sunset. Built on a strong magnesium frame, the waterproof and fogproof DCF SP is a definite customer favorite.

DCF SP Features: Fully multi-coated, phase corrected, BaK-4 prisms, magnesium alloy body, rubber armor, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

DCF BR/ DCF BC

Looking for the uncommon 9x magnification in a moderate price range? These lightweight, open-hinge binoculars from Pentax make a good choice for nature observation, sports, hunting, or hiking. Fully multi-coated lenses guarantee bright images while silver-coated roof prisms and phase correction increase image resolution and contrast.

DCF BR / DCF BC Features: Fully multi-coated, phase corrected, silver-coated prisms, rubber armor, multi-position eyecups, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers (42mm DCF BR), neck strap, case.

DCF CS

Meant to be used on a daily basis, the performance of the Pentax DCF CS binocular is anything but regular. Fully multi-coated lenses provide maximum light transmission while silver-coated prisms reflect extra light for brighter images. You will appreciate the convenience of the click-stop eyecups with four settings.

DCF CS Features: Fully multi-coated, phase corrected, silver-coated prisms, rubber armor, multi-position eyecups, center focus, locking right eye diopter, waterproof, fogproof (nitrogen gas), tripod adaptable. **Included:** Eyepiece caps, objective lens caps, neck strap, case.

50 mm

43 mm

32 mm

50 mm

43 mm

32 mm

42 mm

32 mm

42 mm

	DCF ED				DCF SP				DCF BC / DCF BR		DCF CS	
	8x32	8x43	10x43	10x50	8x32	8x43	10x43	10x50	9x32	9x42	8x42	10x42
Eye Relief	17 mm	22 mm	17 mm	22 mm	17 mm	22 mm	17 mm	22 mm	16 mm	18 mm	21 mm	18 mm
Close Focus	4.9'	6.6'	6.5'	11.5'	4.9'	6.6'	6.6'	11.5'	8.0'	8.2'	8.2'	8.2'
Field of View (1000 yards)	393'	330'	315'	261'	393'	330'	315'	261'	351'	320'	393'	315'
Height	5.0"	5.7"	5.7"	6.7"	5.0"	5.7"	5.7"	6.7"	5.4"	5.6"	5.8"	5.6"
Width	5.0"	5.0"	5.0"	5.2"	5.0"	5.0"	5.0"	5.2"	5.0"	5.0"	5.3"	5.3"
Weight	23.5 oz	25.2 oz	25.8 oz	30.2 oz	23.2 oz	24.5 oz	25.0 oz	29.6 oz	17.6 oz	23.5 oz	22.6 oz	21.7 oz

Pentax Binoculars

Pentax Binoculars

PENTAX

DCF LV 28 mm

DCF NV 36 mm

Papilio 21 mm

	DCF LV	DCF NV	Papilio
	9x28	8x36 10x36	6.5x21 8.5x21
Eye Relief	18.0 mm	16.0 mm 17.5 mm	15 mm 15 mm
Close Focus	9.9'	9.8' 9.8'	1.6' 1.6'
Field of View (1000 Yards)	294'	342' 288'	393' 315'
Height	4.6"	6.1" 6.1"	4.5" 4.6"
Width	4.5"	5.1" 5.1"	4.3" 4.3"
Weight	12.9 oz	22.6 oz 22.4 oz	10.2 oz 10.2 oz

DCF LV

Selected by Outdoor Life Magazine as the 2008 winner of Editor's Choice and Great Buy awards, the Pentax DCF LV earns high praise. Whether you are scanning open prairie or dense woodlands, the impressive performance of the Pentax DCF LV promises to make this binocular indispensable for daily outings. Protected for use in tough weather, the DCF LV is waterproof and fogproof.

DCF LV Features: Fully multi-coated, phase corrected, rubber armor, multi-position eyecups, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). Included: Eyepiece caps, neck strap, case.

DCF NV

Another fine addition to the Pentax DCF series, the mid-size NV binocular is outfitted with everything you need to enjoy terrific views. With phase-coated roof prisms providing high resolution and contrast, and fully multi-coated lenses increasing light transmission and color quality, you won't miss any of nature's beauty. A generous eye relief and the four-position eyecups will deliver viewing comfort during a day-long outing.

DCF NV Features: Fully multi-coated, phase corrected, polycarbonate body, rubber armor, multi-position eyecups, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). Included: Case.

Papilio

Just like a portable microscope, the Pentax Papilio is perfect for getting a complete view of the wondrous colors and patterns of butterflies, insects, or flowers. You will enjoy a mosaic of details with the outstanding 1.6 foot close focus. The fully multi-coated optics increase light transmission to deliver the subtleties of nature and art.

Papilio Features: Fully multi-coated, BaK-4 prisms, rubber armor, multi-position eyecups, center focus, right eye diopter. Convergent Lens Optical System Engineering (C.L.O.S.E.). Included: Rainguard, neck strap, case.

Eagle Optics on Location!

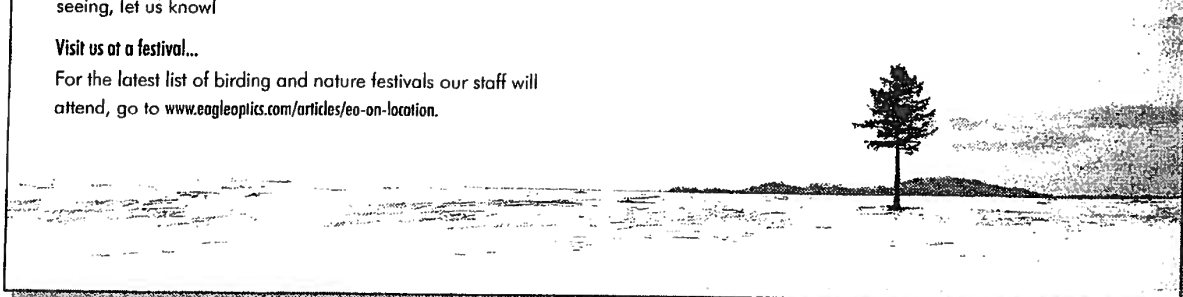
As supporters and sponsors of numerous birding and nature festivals, the Eagle Optics staff attends many events throughout the course of the year—and we relish the opportunities to meet our customers in person!

On the road again...

Have you ever wished you could visit Eagle Optics, but don't have Southern Wisconsin on your travel itinerary? No worries—look for our showroom on the road at a location near you! If there's a specific model you're interested in seeing, let us know!

Visit us at a festival...

For the latest list of birding and nature festivals our staff will attend, go to www.eagleoptics.com/articles/ea-on-location.



Steiner Binoculars

Steiner warranty varies with binocular model.

Predator Pro Xtreme

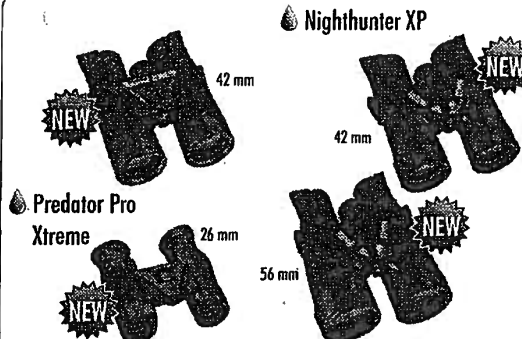
Steiner's exclusive, contrast-enhancing optics get even better with the new Dynamic Coating Technology. Designed to filter layers from inbound light, you gain added contrast for increased ability to spot game in wooded situations. Pick the 22mm and 26mm for bow hunting or hiking and the 42mm for surveying at greater distances.

Predator Pro Xtreme: Polycarbonate body, rubber armor, eyecups roll back, center focus, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers (42 mm models) neck strap, case. Steiner 10-year limited warranty.

Nighthunter XP

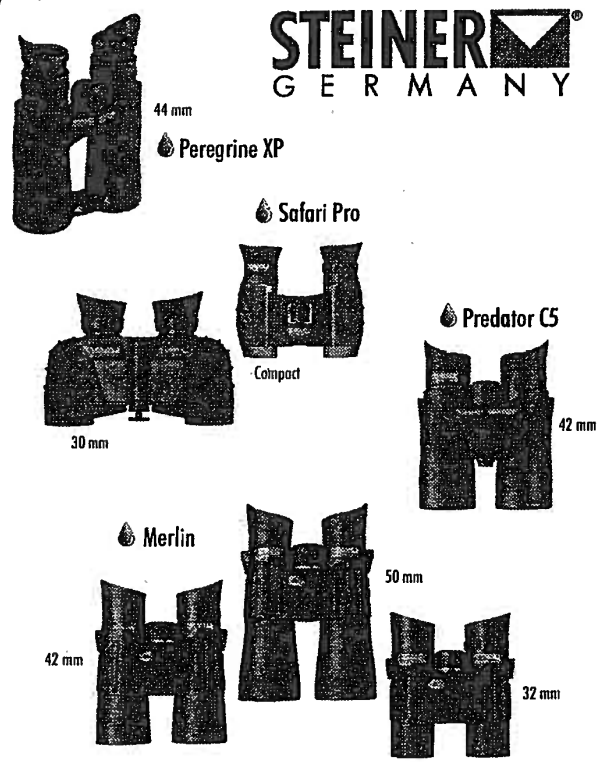
Start earlier and stay later when you have the Nighthunter XP at hand. Choose the 56mm to maximize glassing at long distances and the 42mm for a lighter weight when you are on the move. Steiner unlocks the darkness with its HD optics.

Nighthunter XP: High definition (HD) glass, rubber armor, tapered eyecups twist, center focus, left eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas), Nano lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, hard case. Steiner 30-year limited warranty.



	Predator Pro Xtreme				Nighthunter XP			
	8x22	10x26	8x42	10x42	8x42	10x42	8x56	10x56
Eye Relief	9.5 mm	9.0 mm	10.5 mm	16 mm	10.5 mm	16.5 mm	16.3 mm	17.0 mm
Close Focus	11.5'	14.8'	6.5'	6.5'	13.1'	13.1'	13.1'	13.1'
Field of View (1000 Yards)	404'	315'	381'	328'	409'	344'	403'	361'
Height	4.1"	4.7"	5.8"	6.6"	6.8"	6.9"	8.3"	7.4"
Width	4.1"	4.3"	4.9"	5.0"	5.0"	5.0"	5.4"	5.6"
Weight	9.3 oz	10.6 oz	25.7 oz	25.8 oz	25.7 oz	25.7 oz	36.5 oz	39.4 oz

Steiner Binoculars



	Peregrine XP		Safari Pro			Predator C5		Merlin			
	8x44	10x44	8x22	10x26	8x30	10x42	12x42	8x32	8x42	10x42	10x50
Eye Relief	20 mm	20 mm	12.7 mm	12.4 mm	15 mm	17 mm	16 mm	15 mm	19 mm	16 mm	18 mm
Close Focus	6.5'	6.5'	10.0'	11.5'	20.0'	6.5'	6.5'	8.9'	6.9'	7.9'	8.0'
Field of View (1000 Yards)	398'	378'	369'	309'	360'	315'	276'	336'	342'	274'	264'
Height	7.4"	7.4"	4.0"	4.7"	2.4"	6.5"	6.5"	5.5"	6.4"	6.4"	7.3"
Width	4.5"	4.5"	4.8"	4.8"	6.8"	4.8"	4.8"	5.2"	5.2"	5.2"	5.2"
Weight	30.0 oz	30.0 oz	9.7 oz	9.7 oz	18.0 oz	26.4 oz	27.1 oz	20.0 oz	23.0 oz	24.0 oz	26.0 oz

Peregrine XP

Many years of binocular know-how culminates in Steiner's Peregrine XP. The smooth focus wheel needs only 1.5 turns to travel from near to infinity and an ergonomic body style offers gel-filled grips and thumb pads for extra comfort. With a water-repellent lens coating, you will appreciate the clear views during wet weather.

Peregrine XP Features: Fully multi-coated, phase corrected, dielectric prism coatings, magnesium body, rubber armor, eyecups roll, center focus, left eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, interchangeable winged eyecups, neck strap, case. Steiner 30-year limited warranty.

Safari Pro

You will want to take the feather light and compact Safari Pro on your next hike, but its stylish design will easily fit in at the theater. Sport lovers and nature enthusiasts will find the mid-size Safari Pro a pleasure to handle and comfortable for viewing over long periods of time—the auto-focus system allows you to focus initially at 20 yards and stay focused from there to infinity.

Safari Pro Features: Auto focus (30 mm), center focus (compacts), eyecups roll down. **Included:** Neck strap, case. Steiner 10-year limited warranty.

Predator C5

Specifically developed as a tool for outdoor enthusiasts, the Predator C5 offers a high degree of light transmission, image resolution, and color contrast to make animals and other objects pop out of the shadows. The polycarbonate chassis is durable and the optics are protected with waterproofing and fogproofing.

Predator C5: Fully multi-coated, phase corrected, dielectric prism coatings, polycarbonate body, rubber armor, eyecups twist, center focus, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case. Steiner 30-year limited warranty.

Merlin

Steiner's focus on developing birding binoculars resulted in the popular Merlin. Along with phase corrected prisms, the Merlin's optics include premium glass with Steiner's specialized coatings for natural color transmission. The Merlin features soft, angled eyecups, generous eye relief, and a light weight for comfortable viewing over extended periods.

Merlin Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, eyecups roll, center focus, left eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Neck strap, case. Steiner 10-year warranty.

Swarovski Binoculars

Swarovski Binoculars

Swarovski limited lifetime warranty.

Swarovski EL Swarovision

Heading toward the goal of optical perfection, the Swarovision EL scores a win. This generation of the EL binocular comes with revolutionary new innovations to provide virtually even images with razor-sharp clarity and outlines. Improved coating technology sets new standards for brilliance and image definition and guarantees optimum contrast in low light situations. The 42mm Swarovision EL offers a phenomenal field of view appreciated by birdwatchers and naturalists. While the 50mm binocular garners more light and is favored for hunting out west, it is comparable in size to the 42mm binocular.

EL Swarovision Features: High-density (HD) glass, fully multi-coated, phase corrected, dielectric prism coatings (Swarobright), magnesium body, rubber armor, multi-position eyecups, center focus, locking right eye diopter on center focus wheel, waterproof, fogproof (nitrogen gas), Swaroclean external lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case, Swarovski Snap Shot adapter.

Swarovski EL 32 mm

The Swarovski EL binocular sets the standard for excellence. In order to deliver 98 percent of the available light to your eyes, the EL is engineered with three-part objective lenses, phase corrected prisms, Swarobright prism coatings, and Swarotop multi-layer anti-reflection coatings. Such top-notch brightness even allows digiscoping through the binocular and is made easier with the included SnapShot Adapter. Customers love the open-hinge design, wide field of view, and convenience of the Easy To Clean external lens coating.

EL Features: Fully multi-coated, phase corrected, dielectric prism coatings (Swarobright), BaK-4 prisms, magnesium body, rubber armor, eyecups twist, center focus, locking diopter on center focus wheel, waterproof, fogproof (nitrogen gas), Swaroclean external lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case, Swarovski Snap Shot adapter.

SWAROVSKI

Swarobright® Coating

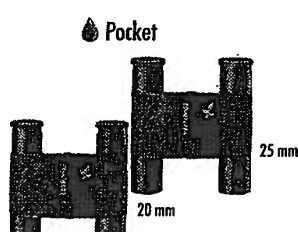
This is an innovative coating technology that, for the first time, makes it possible to selectively control reflected light in the prism system, delivering 5-10% more light in the blue/green spectrum for increased light transmission, the best contrast, sharpest resolution, and optimal color fidelity.



EL 42 mm



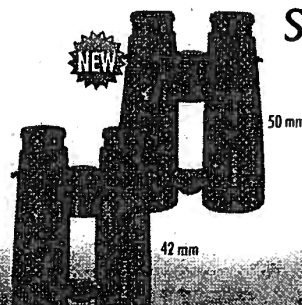
EL 32 mm



Pocket 25 mm

	EL		SLC HD		Pocket	
	8x32	10x32	8x42	10x42	8x20	10x25
Eye Relief	15 mm	12 mm	18.5 mm	16.0 mm	13 mm	13 mm
Close Focus	7.0'	7.0'	6.0'	6.0'	13.0'	16.0'
Field of View (1000 Yards)	420'	360'	408'	336'	345'	285'
Height	5.4"	5.4"	5.9"	5.7"	4.0"	4.6"
Width	4.5"	4.5"	4.7"	4.7"	3.7"	3.7"
Weight	21.5 oz	21.2 oz	28.5 oz	28.9 oz	7.6 oz	8.1 oz

The EL Swarovision



50 mm

42 mm

	8x32	10x32	10x42	12x50
Eye Relief	15 mm	12 mm	18.5 mm	16.0 mm
Close Focus	7.0'	7.0'	6.0'	6.0'
Field of View (1000 Yards)	420'	360'	408'	336'
Height	5.4"	5.4"	5.9"	5.7"
Width	4.5"	4.5"	4.7"	4.7"
Weight	21.5 oz	21.2 oz	28.5 oz	28.9 oz

SLC HD—High Definition Glass

Swarovski upgraded every feature of its rugged SLCnew binocular to provide you with a serious improvement in performance. The SLC HD now sports Swaroclean, Swarobright, Swarodur, and Swarotop coatings in addition to fluoride containing HD lenses. Your enjoyment is further enhanced with the large field of view due to the wide-angle eyepiece and a terrific 6 foot close focus. Continuing its reputation for toughness, the SLC HD comes in a strong magnesium housing.

SLC HD Features: High definition (HD) glass, fully multi-coated, phase corrected, rubber armor, multi-position eyecups, center focus, locking right eye diopter, waterproof, fogproof (nitrogen gas), tripod adaptable, Swaroclean external lens coating. **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Swarovski Pocket—Absolutely rugged!

Ideal for any outdoor activity, the Swarovski Pocket binocular will quickly become a must-have accessory. This compact binocular may look delicate, but the lightweight and rugged housing paired with waterproof and fogproof protection guarantee performance regardless of the situation. Take this premium binocular along for a day-long hike or evening at the theater. A complex optical system, phase corrected prisms, and Swarobright mirror prism coatings will reward you with sharp, bright images, high resolution, and optimum color fidelity.

Swarovski Pocket Features: Fully multi-coated lenses, phase corrected, BaK-4 prisms, rubber armor (black or green) or leather trim, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Neck strap, case.

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Vortex Binoculars

Vortex VIP unconditional lifetime warranty.

Razor HD

You can't help but fall in love with the sleek, well-balanced Vortex Razor HD once you see and feel this redesigned binocular. It starts with the fluid movement of the focus wheel as you swiftly bring details into focus and culminates with the rewarding high resolution and color fidelity only available with the Razor's premium high-density glass. Hand-selected prisms, anti-reflective coatings and fully multi-coated lenses combine to show you the fine points even in low-light settings.

Razor Features: Premium high density (HD) extra-low dispersion glass, fully multi-coated (XR coatings), phase corrected, magnesium body, rubber armor, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), ArmorTek® external lens coating. **Included:** Raininguard, interchangeable flared eyecups, tethered objective lens covers, neck strap, case.

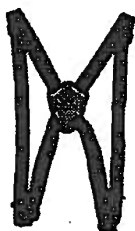
Kaibab HD

The challenge of long-distance viewing is no problem for the rugged Kaibab HD's powerful 15x magnification. You will appreciate the Vortex HD System that enhances image resolution through extra-low dispersion glass, brightens image details with fully multi-coated optics, and delivers a sharp image that is free of distortion.

Kaibab Features: Premium high density (HD) extra-low dispersion glass, fully multi-coated (XR coatings), phase-corrected, silver-coated prisms, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), ArmorTek lens coating. **Included:** Raininguard, tethered objective lens covers, neck strap, case, tripod adapter.

Binocular Harness Strap


Keep your binocular from jostling around as you hike with this comfortable accessory—it spreads the weight of the binocular across your shoulders.




2x Doubler

Add a 2x Doubler, keep the total weight of your gear low, and take in high-power views that compete with many spotting scopes. Fits on most Vortex 32 mm or larger binoculars.







Viper HD
50 mm



Viper HD
42 mm



Viper HD
32 mm




ArmorTek Lens Armor Makes lenses harder and stronger, scratch-resistant, and stain-proof for easier cleaning of dust, dirt, and smudges.

Viper HD

	6x32	8x32	8x42	10x42	10x50	15x50
Eye Relief	19.5 mm	16 mm	20 mm	16.5 mm	19.5 mm	16 mm
Close Focus	3.0'	3.0'	5.1'	5.1'	8.2'	8.2'
Field of View (1000 Yards)	420'	400'	347'	319'	278'	210'
Height	4.9"	4.9"	5.8"	5.8"	6.7"	6.7"
Width	4.8"	4.8"	5.3"	5.3"	5.2"	5.2"
Weight	20.6 oz	20.6 oz	24.2 oz	24.6 oz	28.4 oz	28.4 oz

Viper

	8x28	10x28
Eye Relief	19 mm	19 mm
Close Focus	7.5'	7.5'
Field of View (1000 Yards)	319'	267'
Height	4.7"	4.7"
Width	4.5"	4.5"
Weight	11.8 oz	12.0 oz



Viper Compacts
28 mm

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	Razor HD					Kaibab HD
	8x42	10x42	8.5x50	10x50	12x50	15x56
Eye Relief	19 mm	18 mm	20 mm	19 mm	19 mm	17.4 mm
Close Focus	8.0'	8.0'	14.0'	14.0'	14.0'	23'
Field of View (1000 Yards)	415'	331'	362'	331'	278'	226'
Height	6.5"	6.5"	7.4"	7.4"	7.4"	7.3"
Width	5.1"	5.1"	5.8"	5.8"	5.8"	5.7"
Weight	29.5 oz	29.5 oz	38.5 oz	38.5 oz	39.5 oz	44.0 oz

Viper HD

This sounds too good to be true. Vortex takes its already award-winning Viper binocular and adds High Density (HD) extra-low dispersion glass. With these high-performance additions to this already bright, rugged, lightweight, and affordable binocular, you win big when you take the Viper HD into the field or forest. Vortex's engineering anchors internal prisms in place and improves the Viper's ability to withstand rough use. Protected with rubber armoring, waterproofing, fogproofing, and backed by the Vortex VIP warranty, the Viper HD is certain to perform for generations.

Viper HD Features: Extra-low dispersion (XD) glass, fully multi-coated (XR coatings), phase-corrected, rubber armor, multi-position eyecups, center focus, locking right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), ArmorTek lens coating. **Included:** Raininguard, neck strap, case.

Viper Compacts

Carry the same magnificent optics of the Viper HD in a convenient, compact size. With extra-long eye relief, a 7.5 foot close focus, and definitive bright views, the compact Viper presents high performance at a price you can't afford to pass up.

Viper Compact Features: Extra-low dispersion (XD) glass, fully multi-coated (XR coatings), phase-corrected, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (argon gas). **Included:** Raininguard, neck strap, case.

Vortex Binoculars

Vortex Binoculars

Talon HD

Once you clasp your hands on the Vortex Talon HD, you won't ever let go. Designed with the ever-popular open-hinge design, the rubber armoring enhances the secure feel of the Talon. The internal quality completes the package with HD extra-low dispersion glass, XR anti-reflective coatings, and fully multi-coated lenses to deliver impressive views with the color, details, and brightness you crave. Protected with waterproofing, fogproofing, and the Vortex VIP warranty, the Talon HD is meant to last for many years to come.

Talon HD Features: High definition (HD) extra-low dispersion glass, fully multi-coated optics (XR coatings), phase corrected, dielectric prism coatings, rubber armor, multi-position eyecups, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (argon gas), ArmorTek lens coating. **Included:** Rainguard, tethered objective lens caps, neck strap, case.

Diamondback

Customers quickly realized the rugged Diamondback binocular delivered an amazingly bright view at a shockingly reasonable price. Vortex expanded the successful performance and excellent value of the Diamondback 42 mm into a full range of sizes from 28 mm to 50 mm. With the comfortably soft eyecups and ergonomically balanced design, this binocular is destined to become a classic.

Diamondback Features: Fully multi-coated, phase corrected, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Crossfire

Do you want a bright binocular with a durable build that won't bust the budget? The Vortex Crossfire is the choice for you! The lightweight Crossfire is designed with a wide field of view and fully multi-coated optics—desirable features for reliable performance. The rubber armored and waterproof, fogproof Crossfire is built to stand up to rough use.

Crossfire Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, tripod adaptable, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Raptor

Present the young naturalist in your life with the Raptor, and you've introduced them to the gift of a lifetime. The highly regarded porro prism Raptor delivers an exceptionally wide field of view with sharp, rich three-dimensional details. Featuring twist-up eyecups and waterproof, fogproof construction, the Raptor continues a classic tradition in a modern fashion.

Raptor Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, tethered objective lens covers, neck strap, case.

Vanquish

Take a look through the Vanquish and prepare to relish the view. Built with reverse porro prisms and fully multi-coated optics, the Vanquish presents you with bright, three-dimensional views. Fully protected for use around the water and in temperature extremes, the Vanquish is a tough binocular—ideal for multiple uses.

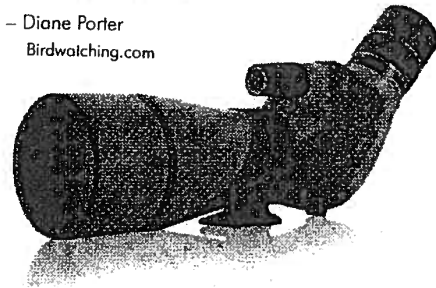
Vanquish Features: Fully multi-coated, BaK-4 prisms, rubber armor, multi-position eyecups, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). **Included:** Rainguard, neck strap, case.

Vortex Razor HD

"Optically, it is among the top few scopes in the world for brightness and sharpness."

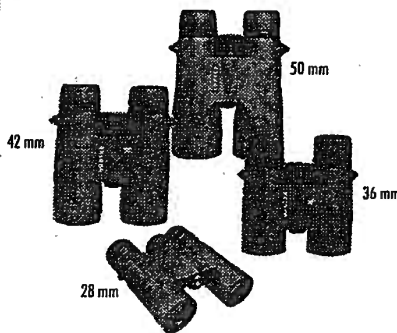


— Diane Porter
Birdwatching.com

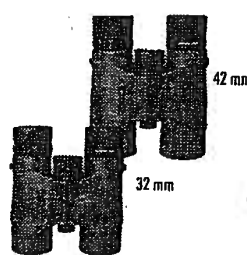


See details on page 35.

Diamondback Series



Crossfire



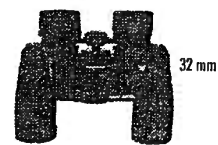
Talon HD



Vanquish



Raptor



	Talon HD		Diamondback										Crossfire				Raptor		Vanquish	
	8x42	10x42	8x28	10x28	7x36	9x36	8x42	10x42	8.5x50	10x50	12x50		8x32	10x32	8x42	10x42	6.5x32	8.5x32	8x26	10x26
Eye Relief	18 mm	16 mm	19.3 mm	16 mm	20.9 mm	15.7 mm	18 mm	16 mm	19 mm	19 mm	19 mm		16 mm	16 mm	19 mm	16 mm	20 mm	14 mm	15 mm	16 mm
Close Focus	6.0'	6.0'	13.1'	13.1'	5.9'	6.6'	4.5'	5.0'	9.0'	9.0'	9.0'		16.0'	16.0'	6.0'	6.0'	15.0'	15.0'	7.6'	7.6'
Field of View (1000 yds)	42°	34°	360'	300'	410'	368'	420'	345'	283'	283'	241'		394'	315'	315'	315'	410'	390'	352'	294'
Height	6.7"	6.7"	4.8"	4.8"	5.1"	5.1"	5.9"	5.9"	6.8"	6.8"	6.9"		5.5"	5.5"	6.0"	5.8"	4.5"	4.5"	4.7"	4.7"
Width	5.0"	5.0"	4.5"	4.5"	4.8"	4.8"	5.6"	5.6"	5.6"	5.6"	5.6"		5.0"	5.0"	5.0"	5.0"	5.7"	5.7"	4.4"	4.4"
Weight	27.4 oz	26.5 oz	14.0 oz	14.0 oz	23.4 oz	22.6 oz	25.2 oz	24.4 oz	31.0 oz	31.0 oz	31.0 oz		17.4 oz	17.0 oz	22.0 oz	21.6 oz	17.3 oz	17.3 oz	12.7 oz	12.7 oz



Unconditional
Unlimited
Lifetime Warranty

Zeiss Binoculars

Zeiss limited lifetime transferable warranty.

Victory T* FL LT

Expect sensational performance from the Victory T* FL LT binocular, because this top-notch binocular delivers. The excellence of Zeiss's brightest binocular comes from superior optical quality, including Zeiss fluoride glass, patented T* anti-reflective coatings, and phase corrected Abbe-Koenig prisms. Customers greatly appreciate the one turn to infinity focusing mechanism, four position click-stop eyecups, and easy-to-clean LotuTec® coating.

Victory FL Features: Fluoride glass, fully multi-coated, phase corrected, magnesium-reinforced body, rubber armor, multi-position eyecups, center focus, locking right eye diopter, waterproof, fogproof (nitrogen gas), LotuTec® external lens coating. Included: Rainguard, tethered objective lens covers, neck strap, case.

Victory Compacts

The Victory compact puts a premium binocular from Zeiss at your fingertips. Waterproof and fogproof, the Victory B T* is ready for any outdoor adventure. After a day of hiking, slip your compact in its elegant leather case and you are ready for an evening at the theater.

Victory Compact Features: Fully multi-coated (T* coatings), phase corrected (P* coatings), dielectric prism coatings, rubber armor, eyecups twist, center focus, right eye diopter, waterproof, fogproof (nitrogen gas), LotuTec® external lens coating. Included: Neck strap, leather case.



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Conquest

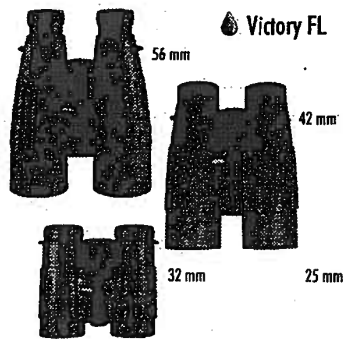
The Conquest series of binoculars really shine on overcast days by delivering the brightness you expect from a European manufactured binocular. Zeiss engineers the Conquest with phase corrected prisms and anti-reflection, multi-layer coatings to enhance light transmission. Waterproof and fogproof, these mid-priced binoculars come in a wide range of sizes and magnifications—ready for any outdoor adventure.

The cell phone size of the Zeiss Conquest B T* compact is perfect to keep close at hand for unexpected encounters needing a closer look. The phase corrected Schmidt-Pechan prisms and anti-reflection multi-layer coatings combine to greatly enhance light transmission. The Conquest comes in a leather case to add extra protection outdoors or elegance to an evening activity.

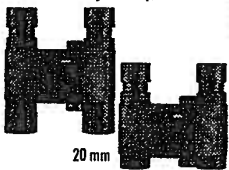
Conquest (Mid and Full Sizes) Features: Phase corrected, T* multi-layer coated, Pechan prisms (40 mm and 50 mm use Abbe-Koenig prisms), eyecups twist, rubber armor, waterproof, fogproof (nitrogen gas). Included: Rainguard, tethered objective lens covers, neck strap, case. **Conquest (Compact) Features:** Fully multi-coated, phase corrected, rubber armor, eyecups roll, center focus, right eye diopter, waterproof, fogproof (nitrogen gas). Included: Neck strap, leather case.



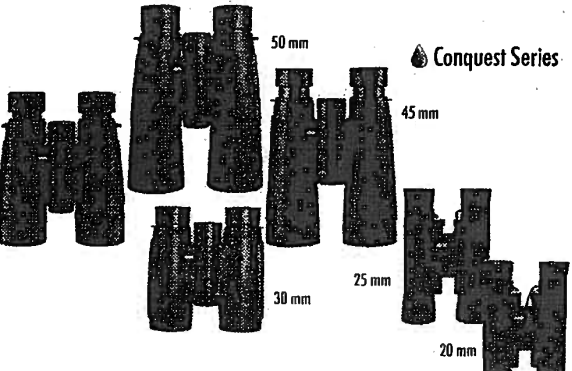
Victory FL



Victory Compacts



Conquest Series



	Victory FL Series						Victory Compacts		Conquest Compacts		Conquest Series										
	8x32	10x32	7x42	8x42	10x42	8x56	10x56	8x20	10x25	8x20	10x25	8x30	10x30	8x40	10x40	12x45	15x45	8x50	10x50	8x56	10x56
Eye Relief	16 mm	16 mm	16 mm	16 mm	16 mm	16 mm	16 mm	14 mm	14 mm	14 mm	14 mm	15 mm	15 mm	16 mm	16 mm	14.5 mm	14.5 mm	16 mm	15.5 mm	16 mm	16 mm
Close Focus	6.5'	6.5'	6.5'	6.5'	6.5'	9.8'	9.8'	8.5'	13.1'	9.8'	16.4'	9.8'	9.8'	9.8'	16.4'	16.4'	10.5'	10.5'	13.1'	13.1'	
Field of View (1000 Yards)	420'	360'	450'	405'	330'	390'	330'	351'	285'	330'	264'	360'	288'	360'	315'	240'	192'	330'	288'	360'	344'
Height	4.6"	4.6"	6.5"	6.8"	6.8"	7.9"	7.9"	4.0"	4.7"	4.0"	4.7"	5.6"	5.6"	5.6"	5.6"	6.8"	6.8"	7.8"	7.8"	7.3"	7.4"
Width	5.1"	5.1"	5.8"	5.0"	5.0"	6.2"	6.2"	3.8"	3.8"	3.7"	3.8"	4.5"	4.5"	5.25"	4.5"	4.7"	5.2"	5.2"	5.5"	5.5"	
Weight	19.8 oz	19.8 oz	26.1 oz	26.6 oz	27.8 oz	43.0 oz	44.0 oz	7.9 oz	8.8 oz	6.5 oz	7.1 oz	17.5 oz	18.0 oz	29.0 oz	29.0 oz	21.3 oz	21.9 oz	32.0 oz	32.0 oz	33.5 oz	31.9 oz

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Zeiss Binoculars

All About Optics

An Eagle Eye View of Optics

You'll find many choices in magnification, size, style, cost, and quality. As you consider which optics suit your needs best, note how the overall optical quality (generally indicated by price) greatly affects image details. We advise you to invest in the best optical quality you can afford.



Extended eyecups



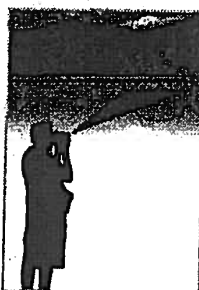
Retracted eyecups

Eye Relief and Eyecup Design

For better viewing when wearing eyeglasses, fold back or twist down the eyecups.

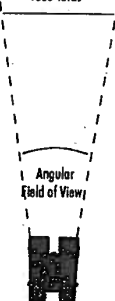
Effective eye relief

Eye relief is the distance in millimeters between the ocular lens and where the image comes to focus and the entire field of view can be seen. If you wear eyeglasses or sunglasses while viewing through binoculars and spotting scopes, look for a minimum eye relief of 15 mm eye relief.



A wide field of view is ideal for many hobbies.

Linear Field of View
1000 Yards



Angular
Field of View

Close focus for detailed nature study

Close focus refers to the minimum distance you can clearly focus on an object. If you plan on viewing butterflies, insects, and other subjects at close range, you'll find a variety of binoculars that focus under eight feet.

Field of view

The field of view is the distance seen from left to right when looking through optics. This distance is normally measured in one of two ways: linear feet at a distance of 1000 yards or angular degrees. A wide field of view is helpful when following fast-moving action.

One Degree of Angle = 52.5 Feet at 1000 Yards

What does this term mean?**Aperture:**

The diameter of the objective lens in millimeters.

Center Focus:

Adjusts both binocular barrels at the same time.

Diopter:

Adjusts for differences in a user's eyes. Usually located on right eyepiece or focus wheel.

Fogproof:

Barrels are filled with nitrogen or argon gas to inhibit internal fogging.

Interpupillary Distance (IPD):

This is the distance between the centers of the left and right eye pupil. To get a correct IPD, adjust the position of the binocular barrels until you see one image.

Light Transmission:

An indication of how much light passes through the optical system, or how efficiently it transmits to the eye.

Phase Correction:

This is a set of coatings on the prism glass that keeps light in correct color phases. These coatings are only needed on roof prisms to enhance resolution, contrast, and color fidelity.

Resolution:

How well an optical system distinguishes fine details.

Waterproof:

Optics are sealed with O-rings to prevent moisture, dust, and debris from getting inside an optical system.

Magnification

As magnification increases, eye relief, field of view, and brightness often diminish and images may shake.



Viewed without Optics



Viewed with Optics

Optical Glass and Coating Quality**Glass quality**

Standard grades of optical glass offer good image quality in ideal lighting conditions. For the best performance in low light situations, it is necessary to consider high grades of glass.

High-grade glass types, such as ED (Extra-low dispersion), FL (Fluoride), and HD (High-Definition), offer noticeably enhanced resolution and color fidelity.

Anti-reflection lens coatings

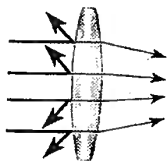
The use of anti-reflective lens coatings will make a difference in image color, resolution, and contrast by increasing the amount of light passing through the optical system. Finer optics use a greater number of higher quality coatings to increase the amount of light transmitted.

Coated optics have a single coating on at least one surface.

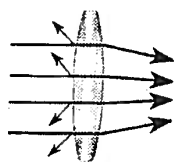
Multi-coated optics have multiple coatings on at least one surface.

Fully-coated optics have a single coating on all surfaces.

Fully multi-coated optics have multiple coatings on all surfaces.



Uncoated Optics



Coated Optics

Anti-reflection coatings allow a greater percent of the light rays to pass through the lenses.

Binoculars

The first number (8 x 42) refers to the magnification, or how many times larger an object will appear. An 8x or 10x binocular is considered adequate for a variety of situations.

Spotting Scopes

The first numbers (20-60 x 80 or 30 x 80) refer to the magnification, or how many times larger an object will appear.

Fixed magnification eyepieces are appreciated for their wide fields of view.

Zoom magnification eyepieces are popular because of their versatility.

Objective lenses

The objective lens is the lens at the end of a binocular or spotting scope that is farthest from your eyes.

The objective lens determines how much light the binocular or spotting scope can receive and how bright the resulting image will be. The objective lens size also affects overall equipment size.



Large Size

Long-range observation, day or night.



Full Size

Birding, nature study, general use.



Mid Size

General day use, travel.



Compact Size

Hiking, travel, backpacking.

Binoculars

The second number (8 x 42) refers to the diameter of the objective lens in millimeters. Objective lenses typically vary in size from 15 mm–80 mm.

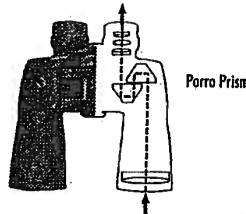
Spotting Scopes

The last number (20–60 x 80) refers to the diameter of the objective lens in millimeters. Objective lenses typically vary in size from 40 mm–100 mm.

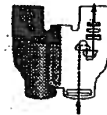
Prisms

Porro Prism Design

Named after their Italian designer, porro prism binoculars are characterized by objective lenses more widely spaced than the eyepieces. Porro prisms generally offer a rich depth of field, wide field of view, and three-dimensional image.



Reverse Porro Prism

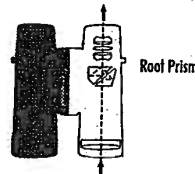


Reverse Porro Prism Design

Compact binoculars often have reverse porro prisms, with eyepieces closer than the objective lenses.

Roof Prism Design

Named for the roof-like appearance of the prisms, roof prism binoculars have the eyepieces and objective lenses positioned in a straight line. Roof prism binoculars are appreciated for their streamlined shape and durability.



Spotting scope body design

Straight body

Is favored by users because it works well for viewing downward from elevated platforms, such as decks and patios.



Angled body

Is favored by users of different heights for viewing without adjusting the tripod height as frequently. The angled design works well when viewing at an upward angle.



Exit Pupil

The exit pupil is the beam of light that exits each eyepiece and enters the user's eyes. The exit pupil is measured in millimeters. To calculate the exit pupil, divide the size of the objective lens in millimeters by the magnification.

$$\text{Exit Pupil} = \frac{\text{Objective Lens}}{\text{Magnification}}$$

8x25 Binoculars
Exit Pupil = 3.125 mm

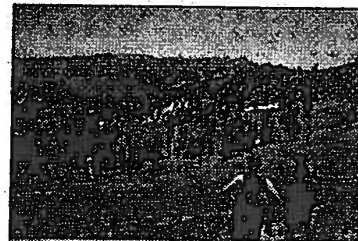
7x50 Binoculars
Exit Pupil = 7.14 mm



The exit pupil is seen as a white circle in the eyepiece.

Binoculars for low light conditions

A person's dilated pupil is usually around 5 mm. As we age, the iris dilates less. The larger the exit pupil of the binocular, the brighter the image will appear in low light conditions.



Optics for Your Activity

Eagle Optics offers a variety of binoculars, monoculars, and spotting scopes to meet a wide range of activities. Here are some suggestions for choosing binoculars:

Astronomy: Objective lens size 50 mm and larger

Birding: Magnification of 7x to 10x

Boating: Waterproof, large objective lens

Butterfly Watching: Close focus under eight feet

Hiking and Travel: Compact, waterproof, rubber armored

Kids: Compact to mid-size with narrow interpupillary distance (IPD)

Spectator Sports: Wide field of view, magnification of 6x to 8x

Theater Glasses: Compact, wide field of view, low magnification

Need help choosing optics?

E-mail info@eagleoptics.com or call 1-800-289-1132.



Theater Glasses

Available at www.eagleoptics.com/theater-glasses.

Capture the details!

Monoculars

Leica Monovid

Count on outstanding performance when you're off exploring a museum or interacting with nature. Leica bundles optical excellence in the four-inch, four-ounce Monovid and includes a close-up accessory lens to bring out details from as close as 10 to 14 inches.

Monovid 8x20 Features: Fully multi-coated, rubber armor, waterproof, fogproof (nitrogen gas), AquaDura® external lens coating. **Included:** Neck strap, case, belt clip (36 mm). Leica lifetime warranty plus a three-year Passport Protection Plan.

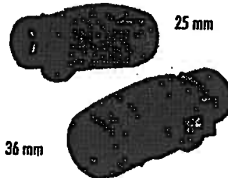


8x20 Monovid

Vortex Solo Monocular

The new 36 mm Solo will spoil you with bright views. This lightweight, dependable monocular will quickly become important for your daily use and travels.

Solo Features: Fully multi-coated, rubber armor, eyecup twists, waterproof, fogproof (nitrogen gas). **Included:** Neck strap, case, belt clip (36 mm). Vortex VIP unconditional lifetime warranty.



36 mm

Minox Minoscope

Travel the world and revel in all the bright details with the Minoscope! Fogproof and waterproof, the versatile Minoscope fits comfortably in your hand and is easy to focus with a well-placed focus ring.

Minoscope 8x25 Features: Multi-coated, rubber armor, eyecup twists, waterproof, fogproof (nitrogen gas). **Included:** Strap, case. Minox lifetime warranty.



8x25 Minoscope

Brunton Macroscope™

Bring details to life from 18 inches to infinity with an easy turn of the focus dial!

Macroscope 7x40 Features: Fully multi-coated, BaK-4 prisms, aluminum body, rubber armor, eyecup twists, tripod adaptable. Brunton limited lifetime warranty.



7x40 Macroscope

Zeiss Design Selection Monoculars

Zeiss offers stunning image quality with the slim, sleek Design Selection monoculars. Magnifying text within an arm's length is especially easy thanks to the one-foot close focus. These monoculars combine sophisticated style with sure-fire mechanical and optical precision.

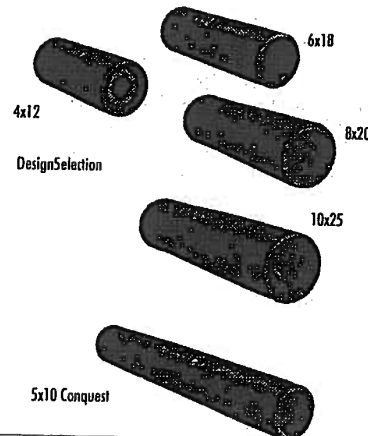
4x12: A magnificent magnifier. Draw tube focus.

6x18: Good perspective with a 366-foot field of view. Draw tube focus.

8x20: Ideal for travelers, sports and cultural events.

10x25: Effective tool for orienting yourself to distant landmarks or nearby views.

DesignSelection Features: Zeiss P* and T* coatings, eyecup rolls. **Included:** Strap, case. Zeiss limited lifetime transferable warranty.



DesignSelection

Zeiss Conquest Mini Quick Monocular

No larger than a fountain pen—weighs less than a pocketknife. Great for gifts!

Conquest Mini Quick 5x10 Features: T* multi-coatings. **Included:** Leather pouch, built-in pocket clip. Zeiss limited lifetime transferable warranty.

5x10 Conquest

	Brunton Macroscope 7x40	Leica Monovid 8x20	Minox Minoscope 8x25	Vortex Solo				Zeiss Design Selection				Zeiss Conquest 5x10
Eye Relief	15 mm	15 mm	12 mm	8x25	10x25	8x36	10x36	4x12	6x18	8x20	10x25	5x10
Close Focus	1.5'	6.0'	1.2'	15 mm	14.5 mm	18 mm	15 mm	16 mm	16 mm	16 mm	16 mm	16 mm
Field of View (1000 Yards)	336'	331'	342'	16.4'	16.4'	16.4'	16.4'	1.0'	1.0'	9.8'	16.4'	13.1'
Length	8.5"	4.0"	3.6"	378'	315'	393'	325'	55"	366'	345'	285'	300"
Width	2.6"		2.2"	5.7"	5.7"	4.9"	4.9"	2.8"	3.7"	4.0"	4.6"	4.5"
Weight	11.3 oz	4.0 oz	5.3 oz	5.6 oz	5.6 oz	9.7 oz	9.7 oz	1.1"	1.1"	1.2"	1.5"	0.6"
								1.6 oz	2.0 oz	2.7 oz	3.1 oz	.8 oz

Bushnell Spotting Scopes

Bushnell limited lifetime warranty.

Elite

An excellent choice for remarkable performance at a moderate price, the Elite provides you with extra-low dispersion glass (ED) for impressive image resolution and contrast. Waterproofing and fogproofing protect the internal optics from a variety of weather, and Bushnell's permanent Rainguard™ lens coating works to decrease the effect of rain on external lenses. These benefits guarantee a spotting scope ready to perform in tough situations.

Elite Features: Extra-low dispersion (ED) glass, fully multi-coated, BaK-4 prisms, rubber armor, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas), Rainguard exterior lens coating. **Included:** View-through case, eyepiece cap, objective lens cover. Straight or angled body with 20-60x eyepiece.

Legend Ultra HD

Capture all the details of the moment through the razor-sharp views of the Legend Ultra HD 80 mm angled spotting scope. Also available in a mid-sized 60mm straight model as well as the convenient, compact 50 mm design (straight and angled body). Priced for the budget-minded, you will still enjoy the precise optical performance of extra-low dispersion glass and the bright images through the fully multi-coated optics.

Legend Ultra HD Features: Extra-low dispersion (ED) glass, fully multi-coated, BaK-4 prisms, rubber armor, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas), Rainguard exterior lens coating. **Included:** View-through case, eyepiece cap, objective lens cover. All models come with zoom eyepiece.

Trophy

Built tough, this Trophy isn't meant to sit on your shelf! Fully multi-coated optics ensure bright views as you zoom in on fine details of wildlife. Use the convenient, compact tripod for steady observation.

Trophy Features: Fully multi-coated, eyecup twists, rubber armor, sunshade. **Included:** Soft and hard cases, tethered objective lens cover, tabletop tripod. Straight body in two sizes: 20-60x65 or 15-45x50 models.

Free Shipping

Eagle Optics ships via FedEx Ground with no charge on orders of \$50 or more at our way of saying

"Thanks for your business!"

Offer only applies to shipping in the contiguous United States where FedEx Ground service is available.



Easy rotation of scope body

An angled body makes sharing views with children so easy. Instead of changing the height of the tripod, simply rotate the scope body so that the eyepiece faces downward. Also helpful when using a car window mount.

Elite ED

	80 mm
Eyepiece	20-60x
Eye Relief	18 mm
Field of View (1000 yards)	98-50'
Close Focus	15.0'
Weight	53.8 oz
Length	17"

Legend Ultra HD

	50 mm	60 mm	80 mm
Eyepiece	12-36x	15-45x	20-60x
Eye Relief	17 mm	20 mm	18 mm
Field of View (1000 yards)	179-90'	140-63'	110-51'
Close Focus	15.0'	18.0'	35.0'
Weight	36.3 oz	40.4 oz	80.1 oz
Length	9.8"	11.1"	16.5"

Trophy

	50 mm	65 mm
Eyepiece	15-45x	20-60x
Eye Relief	18 mm	18 mm
Field of View (1000 yards)	150-76'	110-55'
Close Focus	32.5'	32.5'
Weight	31.7 oz	42.3 oz
Length	13.2"	13.4"

Bushnell Spotting Scopes

Conservation Sponsorships



Let the Birding Begin!

Get connected with thousands of people passionate about birds—just like you.

Join the American Birding Association (ABA) and get exposed to a vast array of birding information. Hone your skills in bird identification, find out about the latest rarities being seen and places to bird, read reviews on products and books, and take ID challenges that will make you a better birder.

Looking for more? Join discussions on Facebook, tweet on Twitter, and peruse our blogs and web site. Take part in special events, activities, and trips. It's all here!



Become a part of the ABA community of birders.

Go to www.aba.org/eo today.

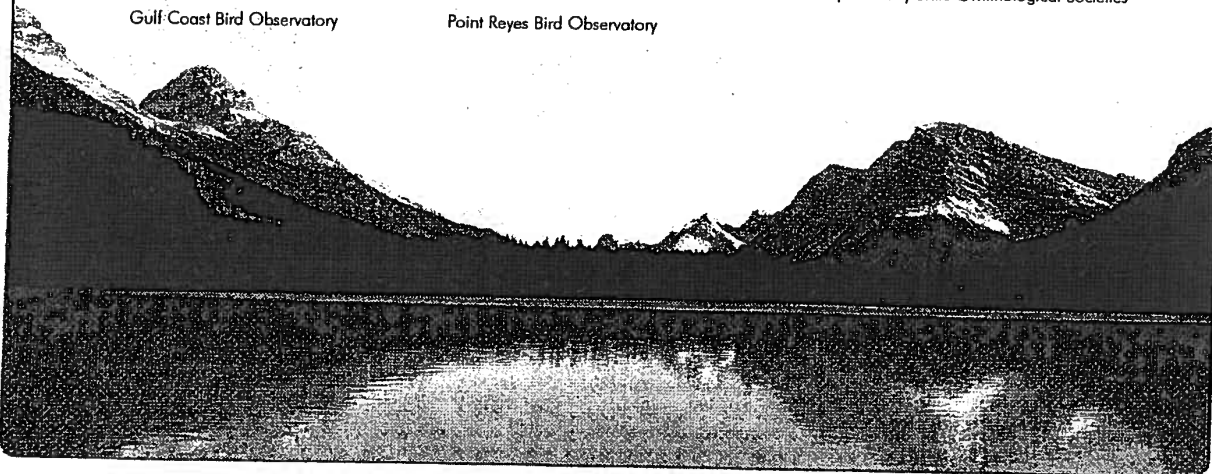


Caring for Our World—Eagle Optics is making a difference!

For over 20 years Eagle Optics has generously donated to conservation groups that care for and expand habitat conservation for birds and wildlife.

These are just a few of the groups Eagle Optics sponsors:

Operation Migration	Hawk Ridge Bird Observatory	Pronatura Veracruz
Optics for the Tropics	International Bird Rescue Research Center	Rocky Mountain Bird Observatory
World Birding Center	International Crane Foundation	San Francisco Nature Education
Midwest Birding Symposium	International Migratory Bird Day	Saving Birds Thru Habitat
Hawk Watch International	Klamath Bird Observatory	Texas Parks and Wildlife
ABA Birder's Exchange Program	National Audubon Society	Trust for Public Land
Cornell Lab of Ornithology	(plus many local chapters)	Urban Ecology Center
Ducks Unlimited	Natural Heritage Land Fund	Ventana Wildlife Society
Fish & Wildlife Service	North America Natural Resources & Wildlife	Wildlife Habitat Council
Golden Gate Raptor Observatory	North American Butterfly Association	...plus many State Ornithological Societies
Gulf Coast Bird Observatory	Point Reyes Bird Observatory	



28 Talk to the Right People for the Right Stuff ... Eagle Optics 1-800-289-1132

Kowa Spotting Scopes

Kowa limited lifetime warranty.

TSN Prominar Series

Prominar spotting scopes from Kowa kick up the performance level and viewing experience by using an XD objective lens with low-dispersion properties to diminish chromatic aberration. The 66 mm and 77 mm lens sizes offer light-gathering power for long distances and low light settings, yet keep the size at an easy-to-carry weight. Kowa engineers offset the length and weight associated with a large objective lens by incorporating an inner focus system and a magnesium alloy body. With the eyepiece locking mechanism, the eyepiece securely attaches to the body and reduces the risk of loss.

TSN 88 mm Prominar

With the 88 mm Prominar spotting scope, Kowa takes image quality to the max by incorporating fluorite crystal lenses to enhance resolution, color, and contrast. Combined with the light-gathering power of the 88 mm objective lens, this Kowa Prominar delivers the ultimate viewing experience!

TSN Prominar Features: Extra-low dispersion (XD) glass, fully multi-coated, BaK-4 prisms, dual focus (77 mm and 88 mm), magnesium alloy body, rubber armor, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas). Included: Eyepiece cap, threaded objective lens cap. Straight or angled body. Eyepieces sold separately.

TSN Standard Series

Take your pick from the lightweight size of the 60 mm or 66 mm scopes with standard glass. Both have long set a lofty performance bar. You will gather all the important details through Kowa's fully multi-coated optics which deliver beautifully bright, clear, and sharp images.

TSN Standard Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas). Included: Eyepiece cap, threaded objective lens cap. Straight or angled body. Eyepieces sold separately.

Kowa DA-10 Digiscoping Adapter

Move beyond viewing to capturing digital images with your Kowa spotting scope. Specifically designed for use with digital cameras using filter threads, the compact Kowa DA-10 adapter fits on any of the TSN 77 mm or TSN 88 mm spotting scopes. Call Eagle Optics or check our website for complete details.

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Kowa Spotting Scopes

Winners for digiscoping.

Eagle Optics

Champions for digiscoping advice.

Call to get started!
1-800-989-1132



TSN 82SV

Kowa continues the legendary performance of the TSN-821M spotting scope with the updated TSN-82SV. Designed to accept eyepieces fitting the Kowa 60/66 mm spotting scopes, you can now choose from magnifications of 26x, 32x, and 27x. With the variety of eyepiece choices and its bright optical performance, the TSN 82SV carries on the tradition of enjoyable performance at a pleasing price.

TSN 82SV Features: Fully multi-coated, BaK-4 prisms, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas). Included: Eyepiece cap, threaded objective lens cover. Accepts the Kowa 60 mm / 66 mm eyepieces.



TSN Prominar 88 mm
Also available with standard glass.



TSN 883
88 mm



TSN 884
88 mm

TSN 82SV
82 mm



TSN Prominar 66 mm
Also available with standard glass.



TSN 663
66 mm



TSN 664
66 mm

TSN Prominar 77 mm



TSN 773
77 mm



TSN 774
77 mm

	60 mm / 66 mm			77 mm			82 mm			88 mm		
Eyepiece	25x LER	30x WA	20-60x	25x LER	30x WA	20-60x	25x LER	30x WA	20-60x	25x LER	30x WA	20-60x
Eye Relief	32 mm	20 mm	16.5-16 mm	32 mm	20 mm	17-16.5 mm	32 mm	20 mm	16.5-16 mm	32 mm	20 mm	17-16.5 mm
Field of View (1000 Yards)	110'	126'	97-53'	110'	126'	115-55'	110'	126'	97-53'	110'	126'	115-55'
Close Focus	20.0'	20.0'	[88 mm scopes use this same eyepiece]	16.4'	[88 mm scopes use this same eyepiece]		20.0'			16.4'		
Weight	25.9 oz	36.0 oz		49.6 oz			52.5 oz			54.7 oz		
Length	12.3"	12.0"		12.0"			15.1"			13.0"		

Find the Right Stuff at the Right Price ... www.eagleoptics.com 29

Kowa Spotting Scopes

Leica Spotting Scopes

Leica Spotting Scopes

Leica limited lifetime warranty plus Leica's 3-year Passport Protection Plan.

Televid APO

Good things come to those who wait—Leica now rewards its customers with the Televid APO spotting scope. Starting with a six percent increase in light yield, the result is a distinctively clear image even while viewing in low light conditions. The four-part objective lens maximizes color fidelity and resolution. Leica's protective layer of AquaDura® guarantees the beautiful images will not be diminished by annoying fingerprints, dirt, or rain.

Televid Digital Camera Adapter 3

Leica's camera adapter securely holds most digital point-and-shoot cameras to the Televid's eyepiece to capture photographic details not available with a camera's normal zoom magnification. Designed for either the 65 mm or 82 mm Televid models.

Televid 25–50x Eyepiece

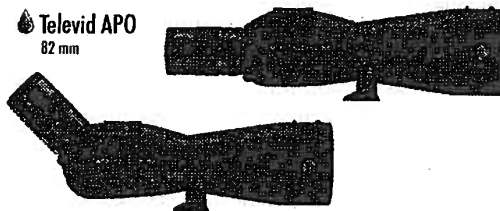
Prepare for a new viewing experience when you lock this eyepiece on the Televid APO. A redesigned optical system means the superb wide-angle and variable zoom magnification provided by the eyepiece remains the same on the 65 mm and 82 mm scope. The eyepiece is constructed with a comfortable adjustable eyecup and rubberized elements for easy handling.

Leica

Leica AquaDura Coating

A new development from Leica, the AquaDura coating reduces fogging and allows moisture droplets and dirt to simply roll off the lenses. This ensures clear visibility through every Televid spotting scope—even in the wind and rain.

Televid APO
82 mm



Televid APO
65 mm



Interested in digiscoping?
Call us at 800-289-1132 or visit
eagleoptics.com for information.

	Televid	
	65 mm	82 mm
Eyepiece	25–50x	25–50x
Eye Relief	19 mm	19 mm
Field of View (1000 Yards)	123–84°	134–92°
Close Focus	9.8'	12.8'
Weight	38.8 oz	47.7 oz
Length	11.8"	12.8"

Televid APO Features: Fluoride glass, fully multi-coated, BaK-4 prisms, dual focus, magnesium body, rubber armor, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas), AquaDura® external lens coating. Included: Eyepiece cap and case, objective lens cover. Straight or angled body.

Leupold Spotting Scopes

Leupold warranty varies with model.

Golden Ring

Key to the popularity of Leupold Golden Ring spotting scopes is the absolute ruggedness and lightweight construction. This compact line of scopes is perfect for lovers of the outdoors who can't be slowed down by heavy equipment.

Golden Ring Features: High-definition glass (HD) on select 60 mm models, fully multi-coated, rubber armor, eyecup rolls, waterproof, fogproof (nitrogen gas). Included: View-through case. Leupold full lifetime warranty.

GR Boone & Crockett

Hunters and birders alike appreciate the HD technology offered by this edition of the Golden Ring scope. Flourite-based lenses ensure top clarity and the XT Lens coatings optimize light transmission for extended viewing at dawn and dusk.

Boone & Crockett Features: High-definition glass (HD models), fully multi-coated, rubber armor, eyecup twists, waterproof, fogproof (nitrogen gas). Included: Straight body and 20–60x zoom eyepiece. Leupold full lifetime warranty.

LEUPOLD

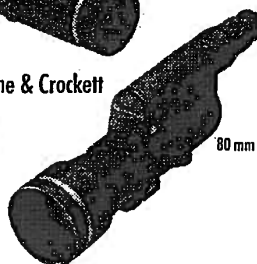
AMERICA'S OPTICS AUTHORITY

Golden Ring
Kits available.



Kenai HD
80 mm

GR Boone & Crockett



80 mm

SX-1 Ventana



80 mm

60 mm

Kits available.

	Golden Ring		Kenai HD		SX-1 Ventana	
	60 mm	80 mm	60 mm	80 mm	60 mm	80 mm
Eyepiece	12–40x	20–60x	30x	25–60x	15–45x	20–60x
Eye Relief	30 mm	30 mm	18.5 mm	17.4–17.9 mm	26.7–24 mm	26.4–24 mm
Field of View (1000 Yards)	169–52°	121–42°	128°	94–52°	121–43°	89–47°
Close Focus	36.0'	25.0'	11.8'	11.8'	13.8'	24.9'
Weight	37 oz	61.8 oz	58.5 oz	58.5 oz	30.6 oz	37.0 oz
Length	12.4"	15.5"	14.0"	14.0"	13.5"	17.0"

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Meopta Spotting Scopes

Meopta lifetime transferable warranty.


Meostar S1 75

Built upon a long tradition of optical excellence, the Meostar lives up to the company's motto, "A better view of the world". With a 75 mm objective lens, the Meostar gives you the best of both worlds—good light gathering capability and a weight of around only 40.5 ounces. The rugged aluminum alloy, carbon fiber body and the waterproof, fogproof optics provide long-lasting protection. Fully multi-coated lenses and phase-corrected prisms add clarity to the fine details.


Meostar S1 S75 APO

For just a little more money, you'll receive the benefit of apochromatic (APO) glass in your Meostar scope. The premium-grade fluorite glass provides ultimate light transmission, image clarity, and color resolution for superior image quality.

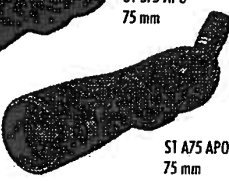
Meostar S1 75 Features: Fully multi-coated, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas). **Included:** Objective lens caps. Straight or angled body with standard or APO glass. Eyepieces sold separately.



meopta
USA



Meostar
S1 S75 APO
75 mm



S1 A75 APO
75 mm

Meostar S1 75	
75 mm	
Eyepiece	30x 20-60x
Eye Relief	15 mm 15 mm
Field of View (1000 Yards)	114' 102-52'
Close Focus	14' 14'
Weight	40.5 oz*
Length	13.8"

*APO models weigh 43.7 ounces and measure 14.4 inches.

MINOX

MD 88
88 mm



MD 88
88 mm
20-60x
22-20 mm
126-57'
23.0'
73.0 oz
16.3"

Minox Spotting Scopes

Minox lifetime transferable warranty.

Minox MD 88

The brains behind the creation of the spy camera, Minox gives you the ultimate scope for spying on nature near and far. Minox engineers its MD 88 with a premium optical system featuring apochromatically corrected (APO) glass and fully multi-coated lenses.

MD Features: Apochromatic (APO) glass, fully multi-coated, rubber armor, helical focus ring, dual focus, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas). **Included:** Angled body.

Leupold Spotting Scopes continued...

SX-1 Ventana

Your eye surveys the sleek and industrial design of the Leupold SX-1 Ventana, reviews the superior optical features, and stops at the budget-conscious price. Leupold packs the SX-1 Ventana with a multi-coated lens system for optimal light transmission and waterproof and fogproof protection for unpredictable weather conditions.

SX-1 Ventana Features: Multi-coated, rubber armor, eyecup twists, waterproof, fogproof (nitrogen gas). **Included:** Case, eyepiece cap, objective lens cap. Straight or angled body with zoom eyepiece. Leupold limited lifetime warranty.

Kenai HD

Talk about versatile! Leupold includes both the 30x wide angle and 25-60x zoom eyepieces to provide you excellent flexibility. Add to this the high-performance optics, tough industrial design, and attractive price of the Kenai HD, and you have a spotting scope that is up to the challenge of all your adventures.

Kenai Features: High-definition (HD) glass, fully multi-coated optics, helical focus, magnesium body, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas). **Included:** 25-60x and 30x eyepieces. Straight or angled body. Limited lifetime warranty.

EAGLE OPTICS

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Nikon Spotting Scopes

Nikon Spotting Scopes

Nikon 25-year limited warranty, plus a No-Fault Repair or Replacement Policy.

ED Fieldsopes

Nikon Fieldsopes ace the class when it comes to size, performance, and value. Perfectly sized, the petite 50 mm spotting scope tops the list for an excellent performer when size matters. The 25-75x82 Fieldscope offers tremendous magnification and monstrous light-gathering power. But if your spotting scope needs to fall between the small 50 mm and mighty 82 mm, Nikon's 20-60x60 scope is the answer. Incorporated in all of these Fieldsopes is Nikon's ED glass to deliver distinctive edge-to-edge sharpness with first-rate detail and color resolution. Adding to the overall image quality, the precisely cut and polished glass is fully multi-coated to allow for optimal light transmission.

Fieldscope Features: Extra-low dispersion (ED) glass, fully multi-coated, eyecup twists, sunshade, waterproof, fogproof (nitrogen gas). **Included:** View-through case, eyepiece and objective lens caps. Straight or angled body with zoom eyepiece.

EDG

Never afraid to chart new territory, Nikon engineers take the Fieldscope performance to new levels with the EDG. With the same ED glass lenses found on the successful EDG binocular, the EDG spotting scope rewards you with superior sharpness and color correction for top-notch resolution. Precisely cut and polished glass is fully multi-coated for brilliant views. The tough, yet lightweight body is waterproof, fogproof, and ready for any adventure.

Nikon's EDG eyepieces deliver unbelievable colors and bright, high-contrast images—ideal for close study.

EDG Spotting Scope Features: Extra-low dispersion (ED) glass, fully multi-coated, rubber armor, eyecup twists, rotating tripod ring, waterproof, fogproof (nitrogen gas). **Included:** Eyepiece and objective lens caps. Straight or angled body with 65 mm or 85 mm objective lens.

ProStaff

See for yourself why customers say, "Wow" when they first look through the Prostaff. Describing the view as bright doesn't do the Prostaff justice. Nikon uses lead and arsenic-free Eco-Glass for high resolution images and fully multi-coated optics for increased light transmission. With the magnifications offered by the 20-60x zoom eyepiece, the 82 mm objective lens gathers plenty of light in the forest and delivers distant details on the plains. Cut weight, but not performance, and carry the lightweight 65 mm ProStaff. Both sizes are built tough to handle rugged situations.

Prostaff Features: Multi-coated optics, BaK-4 prisms, eyecup twists, rubber armor, waterproof, fogproof (nitrogen gas). **Included:** View-through case, eyepiece and objective lens caps. Straight or angled body with zoom eyepiece.

Prostaff Outfits Include: Outfit includes a straight, black ProStaff spotting scope body, zoom eyepiece, view-through carry case, and a full-size tripod. 65 mm or 82 mm (82 mm also available in Realtree camouflage).

Nikon

Fieldscope Series

EDG Series

ProStaff Series

	EDG Series		Fieldscope ED Series			ProStaff Series	
	65 mm	85 mm	50 mm	60 mm	82 mm	65 mm	82 mm
Eyepiece	16-48x	20-60x	13-30x	20-60x	25-75x	16-40x	20-60x
Eye Relief	18.4-16.5 mm	18.4-16.5 mm	12.9 mm	14.1 mm	14.1 mm	15-13.6 mm	15-13.6 mm
Field of View (1000 Yards)	147.0-73.5'	115.5-57.8'	157.5'@25x	105'@25x	84'@25x	126-62'	99-49.9'
Eyepiece Item #							
Close Focus	10.8'	16.4'	9.8'	16.4'	16.4'	13.1'	20.0'
Weight	57.9 oz	71.6 oz	21.9 oz*	43.7 oz*	64.2 oz*	32.8 oz	43.2 oz
Length	16.2"	18.8"	8.1"	10.9"	13.3"	11.5"	15.0"

*Weight for angled body with zoom.

Pentax Spotting Scopes

Pentax Worry-Free lifetime warranty.

PF ED

Pentax's popular line of spotting scopes offers high performance at an affordable price. Housed in a lightweight magnesium-alloy body, the Pentax ED offers optimum optical resolution by incorporating extra-low dispersion (ED) glass. With fully multi-coated lenses, light transmission is maximized for clarity and contrast of details.

The PF-80 ED gathers a great amount of light to provide you with details of shorebirds or big game. When you want the optical excellence of Pentax in a portable package, the PF-65 ED II is the size for you. All of these scopes are available with or without a zoom-eyepiece and will accept a variety of 1.25 inch astronomical eyepieces.

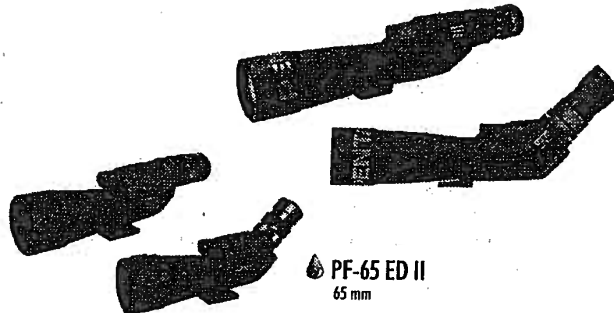
PF-80 ED and PF-65 ED II Features: Extra-low dispersion (ED) glass, fully multi-coated, BaK-4 prisms, magnesium alloy body, eyecup twists, rubber armor, sunshade, waterproof, fogproof (nitrogen gas). **Included:** View-through case, objective lens cap. Straight or angled spotting scope body.

Pentax Premium Eyepieces

Expand the capability of your Pentax scope beyond the versatile Pentax SMC zoom-eyepiece with the XW fixed power eyepieces. All of the eyepieces from Pentax are fully multi-coated, contain high-quality glass elements, and offer generous eye relief.

PENTAX®

PF-80 ED
80 mm



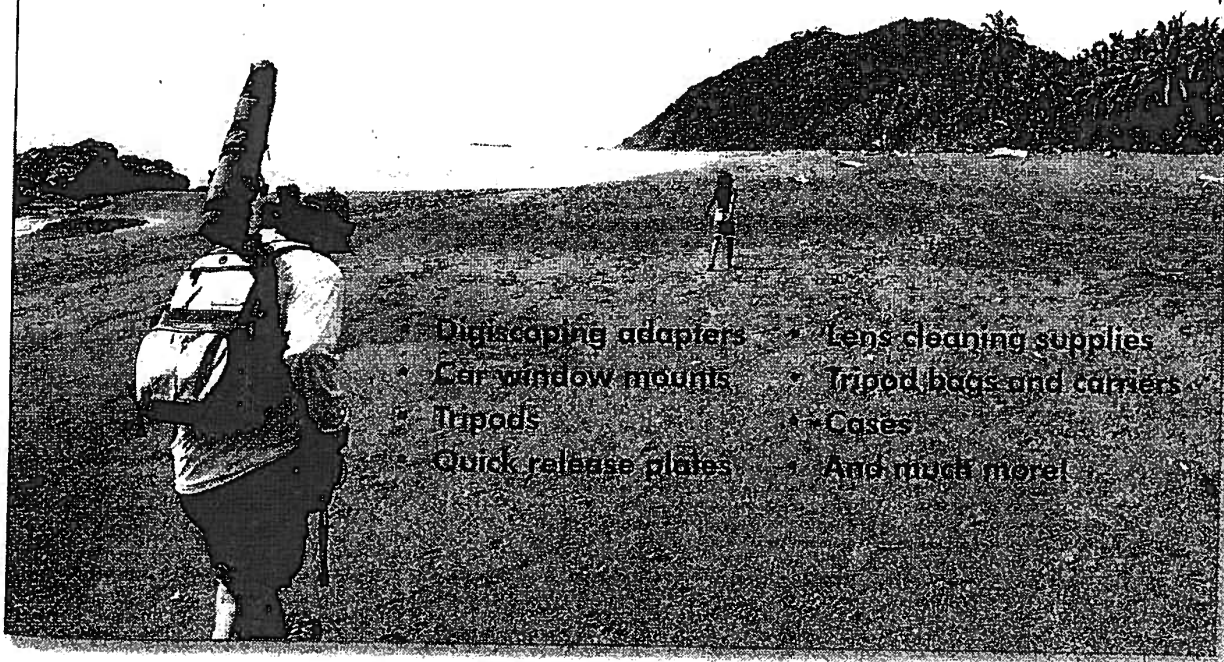
PF-65 ED II
65 mm

PF-80 ED Scope 80 mm					PF-65 ED II Scope 65 mm			
Eye-piece Item #	SMC Zoom Package	*XW20	*XW14	*XW10	Zoom (not sold separately)	*XW20	*XW14	*XW10
Eye-piece	21-63x	27/6x	36x	50x	20-60x	19.5x	28x	39x
Eye Relief	22-18 mm	28 mm	20 mm	20 mm	11-15 mm	20 mm	20 mm	20 mm
Field of View (1000 Yards)	99-51'	141'	105'	76'	117-51'	183'	132'	93'
Close Focus	19.0'	*Straight scope magnifies from 20-60x, is 15.6" long and weighs 49.4 oz.			16.4'	*Straight scope weighs 37.0 oz.		
Weight	56.4 oz*				37.7 oz*			
Length	16.3"				10.6"			

Pentax Spotting Scopes

Spotting Scope Accessories

www.eagleoptics.com/spotting-scope-accessories



- Digiscoping adapters
- Car window mounts
- Tripods
- Quick release plates
- Lens cleaning supplies
- Tripod bags and carriers
- Cases
- And much more!

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Swarovski Spotting Scopes

Swarovski Spotting Scopes

Swarovski limited lifetime warranty.

A passion for precision describes the level of quality Swarovski incorporates into its spotting scopes. From the razor-sharp images to the day-to-day functionality, customers love their Swarovski scope.

HD or Standard Glass

The HD scopes use fluoride-containing lenses to minimize color fringing, offer sharp, high-contrast images, and benefit digiscoping results. Fully multi-coated, Swarovski lenses optimize light transmission for the brightest view. You'll find the Swarovski coating keeps your view clear as it works to repel water and residue. An excellent close focus allows you to scope even in the backyard. Standard glass scopes are budget friendly, lighter in weight, and offer good light transmission.

65 mm or 80 mm Body

Swarovski lightened up the ATM and STM scopes using state-of-the-art magnesium technology in the scope bodies. Just like ounces, every millimeter of the objective lens counts as the scope gathers light. Digiscopers and observers glassing at long distances will benefit from the 80 mm objective lens. Swarovski excellence still shines through the images delivered by the 65 mm, and the smaller lens size is about 1/2 pound lighter.



SWAROVSKI
OPTIK

The Swarovski Series

Swarovski's latest ATM / STM spotting scopes incorporate new magnesium technology for a noticeably lighter weight body.



STM HD
80 mm



ATM HD
80 mm



STM HD
65 mm



ATM HD
65 mm



Balance Rail

Eyepiece	30x WA	45x WA	20-60x	25-50x
Eye Relief	20 mm	18 mm	17 mm	17 mm
Field of View (1000 Yards)	128'	84'	108-60'	126-81'
Close Focus	65 mm ATM: 34.2 oz (36.0 oz for HD)			
Weight*	12.0"			
Length	80 mm ATM: 43.4 oz (45.2 oz for HD)			
	14.0"			

*Weight given for angled models.

Digiscoping adapters available at www.eagleoptics.com.


ATM/STM Spotting Scope Features: Fully multi-coated, BaK-4 prisms, rubber armor, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (nitrogen gas), Swarovski external lens coating. Included: Tethered eyepiece cover, objective lens cover. Eyepieces sold separately.

Spotting Scope Rail

Swarovski's new spotting scope rail employs a two-position support to stabilize the scope for vibration-free viewing and digiscoping. Designed to balance the scope with camera equipment attached, this rail also allows the scope to sit upright on a flat surface when not attached to a tripod. Easy to use, the rail features quick attach and release mechanisms and slides into place with the push of a button.

Swarovski DCA




Switching from observation to digiscoping is a breeze with the Swarovski DCA. Part of the adapter stays on the zoom eyepiece of your Swarovski scope and the other attaches to the filter threads of your digital camera. Call Eagle Optics or check our web site for complete details.



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Shop Eagle Optics today!



Razor HD



85 mm



80 mm

Straight model available now.

Viper HD




80 mm

65 mm

Viper scopes are also available without HD glass in both 65 mm and 80 mm models.

Nomad




60 mm

	Razor HD 85 mm		Viper HD		Nomad 60 mm
	20-60x	30x	65 mm	80 mm	60 mm
Eyepiece	20-60x	30x	15-45x	20-60x	20-60x
Eye Relief	20-18 mm	18 mm	18 mm	18 mm	17-14 mm
Field of View (1000 Yards)	117-40'	112'	140-45'	110-50'	114-51'
Close Focus	16.4'	16.4'	16.0'	22.0'	20.0'
Weight	65.7 oz		48.5 oz	59.5 oz	36.1 oz
Length	15.3"		15.8"	17.5"	13.2"

**Angled body length.

Nomad

Bench shooters, hunters, birders, and researchers have all come to value the solid results of the compact Nomad spotting scope. The Nomad is a strong performer at an economical price—you won't leave home without it!

Nomad Features: Fully multi-coated, BaK-4 prisms, multi-position eyecup, polycarbonate body, rubber armor, waterproof, fogproof (nitrogen gas). Included: Eyepiece and objective lens caps, view-through case, 20-60x eyepiece. Straight or angled body.

GlassPAK Tripod Carrier

Here's a simple solution to carrying your tripod in the field. Wide, easy-to-use straps attach the GlassPAK to tripod legs. Stash your field guide in the zippered pocket, slip on the padded shoulder straps, and move on down the trail.



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Vortex Spotting Scopes

Vortex VIP unconditional lifetime warranty.

Razor HD

Exceeding performance expectations in this price range, you are sure to appreciate the Vortex HD system that enhances resolution, brightens image details, and delivers a distortion-free, edge-to-edge sharpness. The compact, magnesium-alloy body decreases weight and increases durability. A large 85 mm objective lens maximizes the available light at dawn or dusk.

Razor HD Features: Premium high-density (HD) glass, fully multi-coated, BaK-4 prisms, magnesium alloy body, dual focus, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (argon gas), ArmorTek® external lens coating. Included: Lens caps, view-through case, 20-60x eyepiece, 85 mm straight or angled body. 30x eyepiece also available.

Viper Series

Whether you are hitting mountain paths or wide-open plains, the Viper brings you outstanding long-range viewing—featuring Vortex proprietary XR anti-reflective coatings. With all the choices in this line, there's sure to be a Viper for you.

HD or Standard XD Glass

Viper spotting scopes with XD extra-low dispersion glass deliver sharp, crisp images. For even more impressive color fidelity and resolution, choose an HD model with extra-low dispersion glass.

65 mm or 80 mm Body

Choose from two Vipers to meet your needs. The 65mm weighs less, but will still impress. For viewing at greater distances, the 80mm body captures the scene beautifully.

Viper Features: Choice of high-density (HD) or extra-low dispersion (XD) glass, fully multi-coated (XR coatings), magnesium alloy body, dual focus, eyecup twists, sunshade, rotating tripod ring, waterproof, fogproof (argon gas), ArmorTek® external lens armor. Included: Picatinny accessory rail, lens caps, view-through case, choice of 15-45x 65 or 20-60x80 models with straight or angled body. Fixed 25x / 32x eyepiece also available (magnification varies with use in 65 mm or 80 mm body).

Digital Camera Adapter is Easy to Use

Capture vivid photos with any Razor or Viper spotting scope and a DSLR camera. Add the optional PS-100 Point-n-Shoot attachment to the adapter and you'll be able to digiscope with most point-and-shoot digital cameras.



This digital camera adapter is available for both Razor HD and Viper spotting scopes.

PS-100 Attachment

Use the optional PS-100 attachment for digiscoping with point-and-shoot digital cameras.



Recon Mountain Scope

Just about the size of your hand, the unique Recon Mountain scope provides brilliant optical performance. Conveniently attaches to a belt for easy access.

Recon Features: XD extra-low dispersion glass, fully multi-coated, phase corrected, eyecup twists, rubber armor, waterproof, fogproof (nitrogen gas), ArmorTek lens coating. Included: Uni-Daptor tripod adapter, Rain/dust hood, tethered objective lens cover, utility clip, mini tripod.



	Recon 50 mm
Eyepiece	15x
Eye Relief	16mm
Field of View (1000 Yards)	215'
Close Focus	12'
Weight	15.2 oz
Length	7.0"

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Vortex Spotting Scopes

Zeiss Spotting Scopes

Zeiss Spotting Scopes

Zeiss limited lifetime transferable warranty.

Zeiss Diascopes

Cutting edge inventions are nothing new for Zeiss and its new generation Diascope houses the latest focusing technology. Zeiss introduces a dual speed focus within a single knob that automatically adapts the precision and fast focus to your needs. The optical excellence of the Diascope centers on the fluoride glass and multi-layer lens coatings that provide impressive brightness and contrast for images with little to no color fringing. With the protective LotuTec lens coating, your scope will shed water and dirt for unobstructed glassing.

The 85 mm Diascope offers excellent light gathering ability in low light conditions and over long distances. The compact size of the 65 mm Diascope size is a benefit when you need to carry your equipment for long periods of time.

Diascope Features: Fluoride glass, fully multi-coated T* coatings, BaK-4 prisms, dual focus, sunshade, rotating tripod ring, waterproof, fog proof (nitrogen gas), LotuTec® external lens coating. **Included:** Eyepiece and objective lens covers. Straight or angled with 65 mm or 85 mm body. Eyepieces sold separately.

Dialyt Field Spotter

Compact and easy to handle, the design of the Zeiss Dialyt Field Spotter allows you to quickly get your target in focus when there is no time to spare. Premium Zeiss optics incorporate multi-layer lens coatings for a high light transmission that results in bright and sharp images. The helical focus ring surrounds the objective lens while a built-in variable eyepiece allows for 18-45x magnification. Waterproof and fogproof, the Dialyt body is protected with durable rubber armor.

Dialyt Features: Fully multi-coated, rubber armor, waterproof, fogproof (nitrogen gas). **Included:** 18-45x eyepiece, 65 mm body, tethered eyepiece and objective lens covers, shoulder strap.



Diascopes
Eyepieces sold separately.

85 mm

65 mm

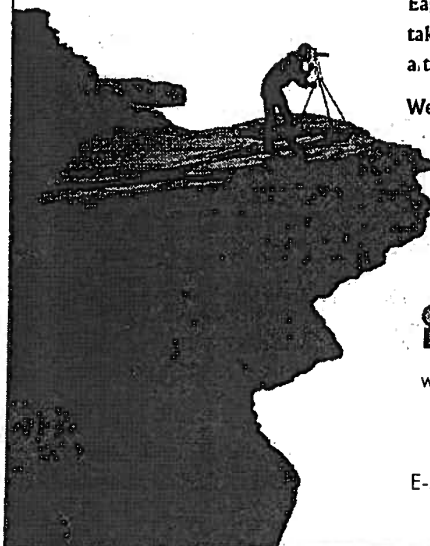
	Diascope Series					
	85 mm			65 mm		
Eyepiece	40x	20-60x	20-75x	30x	15-45x	15-50x
Eye Relief	18 mm	16 mm	16 mm	18 mm	16 mm	16 mm
Field of View (1000 Yards)	120'	129-60'	120-48'	120'	168-72'	156-63'
Close Focus	16.3'	16.3'	16.3'	13.1'	13.1'	13.1'
*Weight	59.8 oz	63.7 oz	63.7 oz	46.8 oz	50.7 oz	50.7 oz
*Length	13.6"	13.6"	13.6"	11.8"	11.8"	11.8"

Weight includes scope body and eyepiece. Length is given for the scope body only.

Call us with Zeiss digiscoping questions.

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Tripod Questions? Let us help!



Eagle Optics knows tripods and takes the guesswork out of selecting a tripod that will work for you!

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- High Performance
- Value

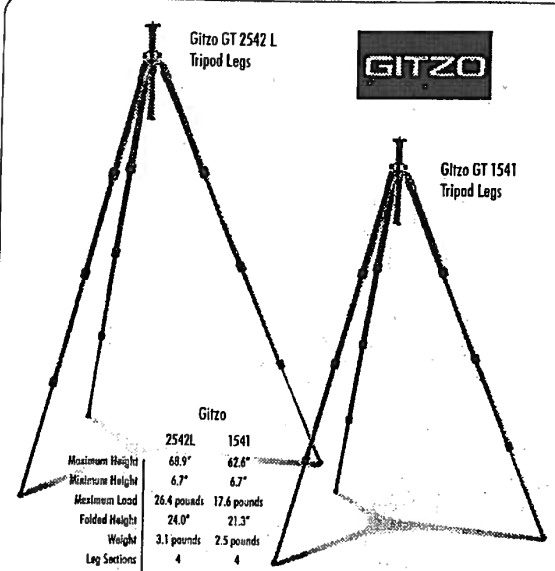


Check out our video,
Finding the Right Tripod, on

www.eagleoptics.com.

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Gitzo

	2542L	1541
Maximum Height	68.9"	62.6"
Minimum Height	6.7"	6.7"
Maximum Load	26.4 pounds	17.4 pounds
Folded Height	24.0"	21.3"
Weight	3.1 pounds	2.5 pounds
Leg Sections	4	4
Multiple Leg Angles	Yes	Yes

The G 2180 Tripod Head

Gitzo engineering puts this compact, low-profile tripod head in a class of its own. The ergonomic design of the G2180 tripod head provides smooth, refined handling. Muted colors and surfaces won't reflect light and give your position away to the wildlife you are watching.

G 2180 Head Features: Quick release plate, counterbalancing head. Weighs 1.2 pounds. Low profile of 3.3 inches. 8.8 pound load-bearing capability.



Gitzo 2180 Tripod Head

Manfrotto Tripods

Manfrotto provides a 2-year limited warranty plus an additional 3-year warranty with online registration.

The MK394-H Tripod Kit

Travelers needing a reliable tripod that easily packs into a suitcase for carrying long distances need look no further. The aluminum legs of the MK394-H fold to a compact, lightweight size yet extend to 56.3 inches. Topping off the legs is an aluminum three-way head with a short handle for easy panning.

MK394-H Features: Aluminum legs; flip lever leg locks, multiple leg angles, reversible center column, 3-way head with separate pan and tilt locks. Included: Quick-release plate, carry bag.

The 055 XB Tripod Legs

Portable enough to take out in the field, the aluminum 055 XB is strong enough to support digital cameras, spotting scopes, and binoculars.

055 XB and 190 XB Features: Aluminum legs, lever leg locks, leg wraps, multiple leg angles, reversible center column, low angle adapter.

The 128 RC Micro Fluid Tripod Head

Our most popular Manfrotto head features excellent smooth fluid action and easy control when viewing.

128 RC Features: Quick-release plate. Weighs 1.9 pounds. Low profile of 4.6 inches. 8.9 pound load-bearing capability.



Gitzo Tripods

Gitzo limited lifetime warranty.

The GT 2542 L Tripod Legs

Expect optimum performance from this four-section tripod. The magnesium upper casting reduces weight and provides solid support for spotting scopes, binoculars, and digital cameras. An ultra-low leg spread takes full advantage of Gitzo's Ground Level Set so you can remove the center column and take low-angle photographs.

GT 2542 Features: Carbon fiber legs, collar leg locks, multiple leg angles, reversible center column, weight hook.

The GT 1541 Tripod Legs

Ever since Gitzo launched the Mountaineer tripod series in 1994, the standard for performance has remained high—and the Gitzo 1541 tripod legs are no exception. Updated casting with three leg positions makes these compact tripod legs even more desirable.

GT 1541 Features: Carbon fiber legs, collar leg locks, multiple leg angles, reversible center column, weight hook.

Gitzo Birdwatching Tripod Heads

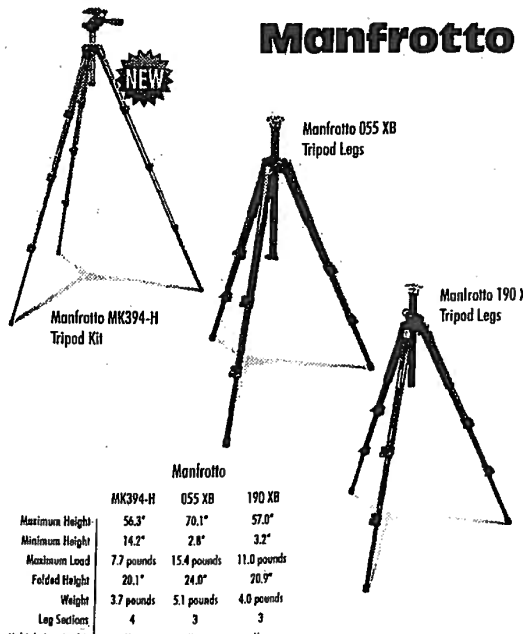
Here's an exceptionally lightweight tripod head—specifically designed for following the action of birds. Fluid cartridges guarantee exceptionally smooth and controlled maneuvering for tracking at a long distance and close to friction-free repositioning when the action speeds up. Once the bird settles in one spot, a single large control knob makes it a cinch to make pan and tilt adjustments to the head position or lock it into position without any give or play.



Birdwatching

GH1720 QR Birdwatching Head Features: Quick release plate. Weighs 1.1 pounds. Low profile of 3.6 inches. 8.8 pound load-bearing capability.

GH2720 QR Birdwatching Head Features: Quick release plate. Weighs 1.5 pounds. Low profile of 4.2 inches. 13.2 pound load-bearing capability.



Manfrotto

	MK394-H	055 XB	190 XB
Maximum Height	56.3"	70.1"	57.0"
Minimum Height	14.2"	2.8"	3.2"
Maximum Load	7.7 pounds	15.4 pounds	11.0 pounds
Folded Height	20.1"	24.0"	20.9"
Weight	3.7 pounds	5.1 pounds	4.0 pounds
Leg Sections	4	3	3
Multiple Leg Angles	Yes	Yes	Yes

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Swarovski Tripods

Swarovski Tripods

Swarovski provides a 1-year warranty.

Swarovski CT Travel Carbon Fiber Tripod Legs

Travel-size tripods are a must for the explorer on the move. With the addition of basalt composite to the already strong carbon fiber construction, the CT Travel Tripod provides excellent rigidity and increased vibration dampening. Weighing in at only 3.1 pounds and collapsing to under 20 inches, this travel tripod takes no effort to pack for all of your adventures.

CT Travel Legs Features: Carbon fiber legs, flip-up lever leg locks, leg wraps, multiple leg angles, reversible center column, weight hook.

Swarovski CT 101 Tripod Legs

Top strength is wrapped up in this lightweight, sturdy tripod. Just right for long hikes and tough climbs, Swarovski's CT 101 won't weigh you down. The two-stage tripod legs and flip-up leg locks adjust quickly and silently.

CT 101 Features: Carbon fiber legs, lever leg locks, leg wraps, multiple leg angles, reversible center column.

Swarovski DH 101 Tripod Head

Swarovski designed the DH 101 tripod head with a five-tooth locking system to provide decreased movement after setup and greater stability for your spotting scope. The tripod head plate provides easy, one-handed mounting, and equipment now automatically locks into position to guard against accidental release. Digiscopers are sure to appreciate the integrated leveler and everyone quickly realizes the advantages of the one-handed access to both pan and tilt controls.

DH 101 Features: Quick-release plate. Weights 1.2 pounds. Low profile of 4.7 inches. 10.9 pound load-bearing capability.

Vortex Tripods

Vortex provides a 3-year limited warranty.


Vortex Pro GT

Surprisingly affordable, the Pro GT provides solid support for spotting scopes. This tripod is an ideal choice if you're on a tight budget or need a reliable back-up tripod for your travels.

Pro GT Features: Aluminum legs, quick-release plate, lever leg locks, leg wraps, multiple leg angles.

Vortex Shooting Stand

Want to travel light? The Vortex Shooting Stand is ideal for watching wildlife from a picnic table on your deck or for fast setup. At just 1.5 pounds, you can easily take this aluminum Shooting Stand on any trail.



	Swarovski		Vortex	
	CT Travel	CT 101	Pro GT	Shooting Stand
Maximum Height	71.6"	71.6"	63.0"	13.3"
Minimum Height	15.0"	15.0"	23.0"	10.8"
Maximum Load	10.9 pounds	10.9 pounds	9.0 pounds	5.0 pounds
Folded Height	24.4"	27.5"	24.5"	13.2"
Weight	3.1 pounds	3.3 pounds	5.8 pounds	1.5 pounds
Leg Sections	4	3	3	1
Multiple Leg Angles	Yes	Yes	Yes	—

Car Window Mounts

Vortex Optics Car Window Mount

Use the Vortex Optics Car Window Mount to view wildlife from the comfort of your car. Mount your scope to the 1/4-inch tripod thread, and you're ready to go!

Manfrotto Car Window Mount Kit

No need to brave the outdoor elements with this Manfrotto car window mount kit. A perfect pairing, the Manfrotto 243 car window pod/clamp easily attaches to a car window and has a 3/8-inch attachment screw that connects to the Manfrotto 3-way 391RC2 tripod head. Equipped with a quick release plate, this head uses teflon pads to provide smooth pan and tilt movement.

Manfrotto Anti-Twist Spotting Scope Plate

Are you tired of your quick release plate coming loose in the field? Manfrotto designed the ingenious Anti-Twist Spotting Scope Plate to prevent unwanted rotation. Two rubber-padded bolts attach the 1/4-inch quick release plate to the bottom of most spotting scopes and keep your equipment secure. This plate will fit Manfrotto quick release tripod heads sold by Eagle Optics.

Vortex Tripods

Questions about Digiscoping?

We're here to help you embark on this fascinating hobby! We not only have the equipment you need, but we give great guidance and tips to help you capture the photos you've been dreaming about.

What is digiscoping?

Digiscoping is a unique kind of photography using a digital camera and spotting scope. Now you can expand your ability to photograph the wonders of nature by putting your digital camera to work.

If you plan to invest in a spotting scope for digiscoping, the best results will come from high quality optical systems featuring High Definition (HD), Extra-low Dispersion (ED), Achromatic (APO) glass, or Fluoride elements.

What do you *really* need for digiscoping?

Many people capture incredible images by simply holding their point-and-shoot digital camera up to the eyepiece of a spotting scope. Digital cameras that work for digiscoping have a 3-4x optical zoom and compact bodies. Using the appropriate adapter can steady your camera.

Here's just a sampling of what you'll find when you visit our Digiscoping Resource Section at www.edgloptics.com/articles/digiscoping:

Equipment Choices

What You Really Need for Digiscoping

Choosing a Quality Tripod for Success

Avoid the Number One Problem of New Digiscopers

How-to Techniques

Digiscoping Better in Low Light

Digiscoping: the Key to Clarity

Digiscoping Fundamentals: PQ

Field Tips

How to Improve Your Field Craft

How to Get Closer to Wildlife

Digiscoping Dragonflies

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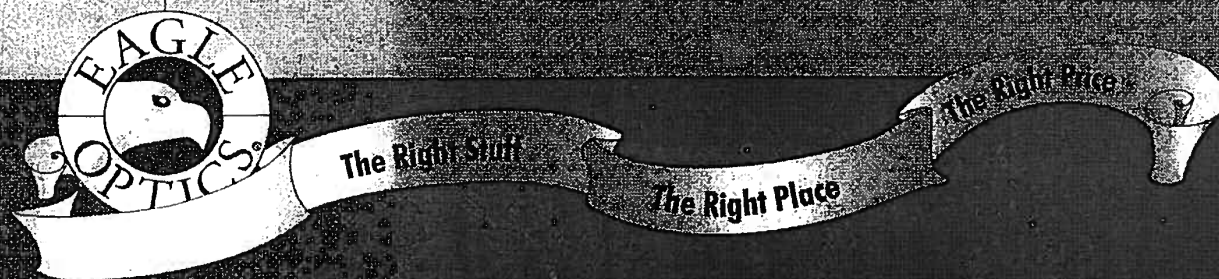
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Questions?

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		Eagle Optics Shrike 10x42 Binocular	List Price: \$159.00 Our Price: \$109.99 (2 Reviews)
		The Shrike will keep you on the lookout!	

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All Eagle Optics Binoculars Sorted by Best Selling from Eagle Optics

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PETITIONER'S TRIAL DEPOSITION EXHIBIT 15

Desperately Seeking Binos

by Ken Rosenberg

In search of the best and the brightest binoculars for birding

[Click here to view the binocular comparison table](#)

If you're in the market for new binoculars these days, chances are you're confused by the bewildering array of makes and models available in nearly every price range. Indeed, when we set out to conduct this binocular review—our first in more than three years—we were unprepared for the onslaught of optics that arrived at the Lab of Ornithology. We ended up with 61 pairs, and some manufacturers didn't even respond to our request for test products. This proliferation of new models reflects the stiff competition in the top-of-the-line markets as well as the budget categories, brought about by several savvy companies entering this formerly stagnant field and by the tremendous boom in recreational birding during the past decade.



Master optical reviewer Ken Rosenberg poses with a few of the many worthy binoculars sent to us by eager manufacturers.

To help sort through this morass of glass, I gathered together 10 certified Lab of Ornithology bird-heads, ranging in ability from novice and casual birders to three members of the Sapsuckers, the Lab's do-or-die World Series of Birding team. Reviewing optics is largely a subjective exercise, and our panel included some of the most opinionated birders I know. I myself bring certain biases to this review, which I will shamelessly share. I've been birding for roughly 40 years, and for more than half this time I've worn eyeglasses. As a professional ornithologist and fanatical birder, I've always demanded the highest-quality optics. For many years, I suffered the tunnel-vision image inflicted by binoculars that were poorly designed for the seeing-impaired. It's also no secret that a certain Austrian optical instruments manufacturer captured my attention during our 1995 review. The company, Swarovski Optik, has since become sponsor of the Sapsuckers, bestowing upon us the best binoculars and scopes it produces. I must admit that I entered this review wondering if anything out there could beat my Swarovski 10x50 SLCs.

How to choose binoculars: What's your bottom line?

When you're shopping for binoculars, it's important to consider the kinds of birding you enjoy most as well as the cash resources you're willing to expend. For most people, price is an important limiting factor and, as with most high-tech toys, price largely sets the limits on quality and other features. For example, less-expensive binoculars are rarely very durable or waterproof, and some of them produce such

a poor image they'll cause severe eyestrain if you look through them too long. With virtually all of the models we tested, price was an excellent predictor of overall quality, as assessed by our reviewers. But one of the refreshing surprises for us was the array of decent binoculars in the mid- and low-priced categories, which shows that manufacturers are finally rising to the challenge of producing good birding optics at an affordable price.

In general, however, I recommend spending as much as you can afford on binoculars. Consider the following points: (1) It's a myth that beginning birders (or older children) should start with inexpensive binoculars. Using high-quality optics right away will enhance your enjoyment and speed up your ability to learn more about birds. This could make the difference between someone becoming a lifelong birder or a confirmed nonbirder who gets an instant migraine headache at the sight of binoculars; (2) Dropping a mint on binos may not be a bad investment—most top-of-the line models are practically indestructible, come with lifetime warranties, and may be the only binoculars you'll ever need to buy.



A variety of certified Lab bird-heads, ranging from beginning birders to professional ornithologists, took part in our latest binocular evaluations. The [binocular features chart](#) reflects their combined optical wisdom.

Other factors to consider, in addition to price, include magnification, weight, overall image quality, field of view, and minimum close-focus distance. Most of these factors present tradeoffs—that is, making improvements in one factor usually entails making sacrifices in another. For example, if you demand high-quality lenses and a wide field of view, the binoculars you buy will most likely be very heavy. Conversely, if you go for a lightweight compact or even midsized model, you'll generally get a narrower and dimmer image, particularly when viewing in low light.

Surprisingly, no relationship appears to exist between the field of view and the minimum close-focus distance of a given binocular, although remarkably few models are designed with both features in mind. Also, for almost any given binocular design, the 7x or 8x models almost always have a wider field of view, brighter image, and closer focus distance than the comparable 10x models. It is no longer true, however, that 10x binoculars must always be heavier than models with less magnification. Among many top-of-the-line brands, the loss of field or brightness in 10x binoculars is barely discernible and is probably compensated for by the greater detail and resolution that the increased magnification provides.

In the mid- and high-priced categories, our reviewers preferred roof-prism over Porro-prism binoculars, even when the Porro-prism binoculars weighed less. In case you're not sure which design is which, Porro-prism binoculars are easy to distinguish because their ocular (eyepiece) lenses are much closer together than their objective (front) lenses. (These are the common binoculars you've seen everywhere since you were a kid.) With roof-prism binoculars, the eyepieces are

directly in line with the objective lenses. Porro-prism binoculars tend to cost less than comparable roof-prism binoculars, but they're usually heavier, bulkier, and less resistant to water. Just to confuse the issue, there's a third binocular category: the reverse-Porro-prism, in which the standard Porro-prism design is inverted, placing the objective lenses closer together than the eyepieces. This is a common design in compact binoculars.

Our reviewers also tended to favor 10x models over comparable lower-magnification models. One of our binocular testers (a crazed Sapsucker team member) declared that 10x magnification was a must, the only other consideration being to get the widest possible field of view. For others, a comfortable feel and moderate weight were all-important. My own bias (and you've heard this before) is also toward higher power. As a teenager, I inherited a pair of World War II—vintage Zeiss 15x50s (why don't they make those anymore?), and I've been hooked on high-power binoculars ever since. The extra detail I can pick out on everything from the eagle-shaped speck high overhead to the antwren rummaging in the rainforest canopy to the sparrow popping up in the bushes 20 feet away far outweighs the slight reduction in brightness or field of view.

On the other hand, my brother, who is a professional bird-tour leader and is as blind as I am, prefers 7x binoculars, so I begrudgingly acknowledge that other opinions exist. Note also that I don't recommend buying low-budget 10x binoculars. It's far easier for a manufacturer to produce a decent inexpensive 7x binocular than a 10x model, and any optical flaws in a low-cost instrument will only be magnified by the increased power. With budget binoculars, getting the maximum quality (acceptable image and field of view) usually requires going with 7x or 8x at the most.

To choose the best binoculars for your needs, there's absolutely no substitute for testing a variety of models yourself. As I watched our reviewers frolic in the piles of optics, I was struck by the amazing diversity in their hand sizes, face shapes, and gripping styles—all contributing to a wide range of subjective ratings. For some reviewers, even the highest-priced models just didn't fit right. People who had a narrow interpupillary distance (the space between the pupils of their eyes), for example, found that the barrels of some models could not be moved close enough together to produce a single image. Or the focus wheel was placed awkwardly for their fingers, or the thumb grips were in the wrong place.

Another reason to test binoculars in a store is to evaluate the quality control—sometimes a great deal of variation exists in the quality of individual binoculars, especially in the low-priced models. It's not that unusual for an inexpensive binocular to be out of alignment right out of the box. This means that you should avoid ordering binoculars sight unseen from catalogs or magazines unless you know exactly what you want beforehand and the company you deal with has an acceptable policy for returning or exchanging substandard merchandise.

Additional tips for bespectacled birders (or complaints about rubber eyecups)

If, like me, you no longer dare to venture afield without wearing eyeglasses, choosing binoculars entails some special challenges. If you bird with eyeglasses, pay special attention to the eyeglass ratings in our table. Also, it is doubly important for you to test before you buy. Even the brightest, sharpest optics may provide a dismal, tunnel-vision view for you. The good news is that nearly all binoculars are more eyeglass-friendly now than they were even five years ago. Some manufacturers seem to pay more attention to eye relief and eyecup design than others, however, making me wonder if the engineers at some companies wear glasses and others do not. For example, although fold-down rubber eyecups are now standard issue, some manufacturers apparently don't expect them to be used. Some of the rubber cups were too stiff to fold back easily (Zeiss Night Owls), while others were too pliable and difficult to keep symmetrical (Swift Ultra Lites). And with many binoculars, the rain guard won't fit if the eyecups are rolled down. In a few cases, the eyecups simply wouldn't stay down and kept rudely popping up in my face. In addition, some eyecups were so deep that when I folded them down there was too much eye relief, making it impossible to form an image without the edges blacking out. Finally, if you need to switch frequently between the up and down positions (for example, to accommodate a non-eyeglass-wearing spouse), fold-down eyecups are a real pain—even during our review some of these eyecups showed signs of cracking.

Several optical manufacturers (such as Leica, Pentax, and Fujinon) solved the problem by designing eyecups that pop easily up and down instead of folding. Most eyeglass wearers find these eyecups far superior to the fold-down type, but non-eyeglass-wearers complain that they sometimes snap down unexpectedly. A further innovation is the turn-and-lock eyecups used by Swarovski and also by Nikon in their new roof-prism binoculars. These are fantastic. Not only do they stay where you want them, but you can adjust them to get exactly the right eye relief for your glasses. For example, when I tested the Swarovski 10x42s, I turned the cups slightly back from the fully lowered position to avoid blackout on the edges. I even know some non-eyeglass wearers who turn their cups half-way down to get a wider field of view. My clear message to shoppers as well as manufacturers is to go for the turn-and-lock eyecups; you'll never go back to the fold-down style.

Using the table

In the table on pages 32—33 [[Click here to view table](#)], we initially grouped the 61 models into price categories, ranging from the top guns, priced at \$700 or more, to budget models, costing \$200 or less. Two cautionary notes: (1) The manufacturers' suggested retail prices are usually much higher than the actual prices you'll find in stores or catalogs, and the allowable price markdowns vary greatly from company to company; (2) Some virtually identical binoculars are sold under more than one brand name, and their retail prices often differ significantly. For example, Swift Ultra Lite look-alikes appear under the Celestron name at Wild Birds Unlimited stores and again as Eagle Optics Voyagers. The Eagle Optics Ranger series binoculars are essentially the same models as Swift Eaglets and

Celestron Regals. In the case of the models "manufactured" by Eagle Optics (many of which are actually built by Celestron), the prices reflect those of a discount retailer rather than more typical manufacturers' suggested retail prices—which is great for binocular shoppers but makes it tricky for us to make direct comparisons based on price categories.

Each model listed in the table was weighed (with the strap on) on the same scale by Living Bird editor-in-chief Tim Gallagher, and I personally measured all minimum-close-focus distances and fields of view. To accomplish the latter, I stood 15 feet from a tape measure mounted on a wall at eye level and recorded the width of the visible field, both with my glasses on and without them. This measure, although undoubtedly correlated to the "feet at 1,000 yards" figure frequently cited, is, I hope, more relevant for birders—field of view is mostly a factor when a bird pops up quickly close to you or in dense vegetation.

I tried to capture as much of the subjective nature of this review as possible in the table. I asked each reviewer to provide four ratings for each model tested. The first three were rated on a scale of 1 to 5 (with 1 being excellent and 5 being poor) and included "overall image," which took into account sharpness, brightness, center-to-edge focus, and other viewing qualities; "feel," which rated the ergonomics, weight, ease of focus, diopter adjustment, and other handling qualities; and "eyeglass friendliness" (if the reviewer was an eyeglass wearer), rating the degree of tunnel vision the particular binoculars caused, the quality of the eyecups, and so on. For the fourth measure, each reviewer ranked the models within each price category in terms of how likely he or she was to actually buy them. The numbers in the table are average ratings or ranks, based on the six to eight reviewers who tested each model. For example, in the midpriced category the 12 models were given ranks from 1 to 12, and the averages of these ranks ranged from 3.2 to 9.4.

Top guns

The competition is fierce in this top-of-the-line category. Only a decade ago, just one or two models dominated the entire market. Today, more than 20 binoculars vie for the attention of serious birders, offering superb optics, a wide range of designs and styles, and a host of innovative new features. If any of these bins ended up on your next birthday gift list, you couldn't go wrong. But hey, for that kind of money you might as well be picky, and among our reviewers opinions were flying around like a covey of flushed quail. The ratings for feel and style were based largely on the personal preference of each reviewer, but several important distinctions came to light. With few differences in optical quality to worry about, your choice will probably depend more on factors such as weight, power, field of view, and close-focus distance. For the latter two factors, you may want to compare the various models in the table, to select the right combination to suit your needs.

In terms of pure image quality, the original Zeiss 7x42s still reign, along with all of

the full- and "oversized" Swarovskis, Zeiss Night Owls, and the new Nikon Venturers. The view of even an ordinary male Mallard on Sapsucker Woods pond through any of these binoculars is simply breathtaking. The Leicas we tested, although similar in design to the Swarovskis, seemed slightly less bright and crisp than their counterparts, except for the midsized 8x32s. For close-focus capability, nothing beat the Bausch and Lomb Elites, although the Nikon Venturers were close. If you really do watch butterflies, or need to examine your toes at close range, the Elites are probably your best choice, even though their image quality is not quite equal to that of the others in this category. And for widest field of view, Zeiss far outdid its competitors with both the older 7x42 and the new 7x45 models.

If you're after the absolutely highest quality 10x binoculars available, in my opinion it's now a tossup between the Swarovski 10x50s and the Nikon Venturer 10x42s. When a Swarovski representative handed me a pair of the nearly 3-pound 10x50s last year at Cape May, my reaction was "no way would I ever carry these." Then, when a box arrived at my office and I focused on the chickadees and House Finches outside my window, I knew instantly that I could never go back to my lighter 10x42s. I can honestly say that after 40 years of birding, these binoculars give me the finest, crispest image I can imagine and definitely the widest 10x field of view available for eyeglass wearers. If you value your vertebrae, however, I still would not recommend carrying these behemoths around your neck. The comparable Leica 10x50s, although optically excellent, are not as well designed for use with eyeglasses and give me an unacceptable tunnel-vision image.

I eagerly reached for the much-acclaimed Nikon Venturers as soon as they arrived—and I was not disappointed. The image they provided was virtually identical to that of the Swarovskis, and the field of view was only slightly narrower. When I focused them down to 8 1/2 feet, I was truly impressed. These binoculars weigh 25 percent less than my Swarovskis, and they felt so good in my hands, I found myself reaching for the Nikons whenever I spotted a bird. Then one evening I went looking for Short-eared Owls in some nearby fields and scanned with the Nikons until nearly dark. About the time I could no longer make out a cornstalk against the snow, I reached for the Swarovskis and was amazed at their brightness. The 10x50s allowed me to scan for five full minutes longer than I could with the Nikons (but I still couldn't find any owls). So under these extreme conditions, the Swarovskis did outperform the Nikons—and this could be critical if you're trying to make out a Piping Plover on its nest on a New Jersey beach at 11:00 p.m. during the World Series of Birding. But I believe that Nikon has set a new standard by offering a superb image in a much friendlier package, and I hope that other manufacturers will take up the challenge and continue to develop better and better binoculars.

Across all of the full- and oversized models, these Nikon 10x42 Venturers were clearly the top choice among our reviewers. The combination of extra-crisp image, moderate weight, wonderful feel, turn-and-lock eyecups, and excellent close-focusing capability allows these binoculars to buck the recent trend toward

ridiculously heavy optics. Our reviewers didn't like the highly touted Nikon Superior E Porro prisms as much, however. The Swarovski 10x models ranked next in terms of overall ratings, followed by the old standby Zeiss 10x40s and 7x42s. In spite of their exceptionally bright and wide field of view, the Zeiss Night Owls did not achieve a high ranking; our reviewers were critical of their extreme weight, poor balance, and stiff rubber eyecups. Our advice to Zeiss is to simply modernize their tried-and-true models—as one reviewer stated: "Optically, the 7x42s are still top dog in my mind. I just wish they would make a more ergonomically designed housing and eliminate the external focus." At a suggested retail price of \$800, these binoculars are a steal. Another disappointment was the Swarovski 8x56s, which weighed in at a neck-aching 46.5 ounces, had a narrow tunnel view, and, with a minimum close focus of 20 feet, seemed to represent a move in the wrong direction for a company that has otherwise paid close attention to the desires of birders.

When we separately considered the six midsized models, the Leica 8x32s were clear favorites, with a very sharp image and nice feel (a bit reminiscent of their predecessors, the beloved old Leitz Trinovids). The Swarovski 8x30s and 7x30s are optically similar to the Leicas, but their awkward design forces you to focus with your ring finger or pinky. Still, if you wear glasses, these Swarovski binoculars provide less of a tunnel-view image, and they have the superior turn-and-lock eyecups, making them a better choice.

All in all, these midsized models offer superb optical quality at about half the size and weight of their larger counterparts, and they may represent the perfect compromise if a wide, bright field is not your most important consideration.

Mid- and Low-priced choices

Okay, enough talk about all those binoculars that you can't really afford. If you're looking for good binoculars at very reasonable prices, there is finally a range of solid options. Although no single model stood out in the mid-priced category, our reviewers were impressed with the Fujinon and Kowa binoculars, as well as the Swift Eaglets and Celestron Regals. All of these offer roof-prism design and very good image quality. The Fujinons have snapping eyecups and an overall feel like the highest-priced models. I personally liked the Celestron Regal 10x50s best—although they're not quite up to the optical quality of the top guns, their wide field of view, short minimum close focus (about 8 feet), fully sealed and waterproof body, and sleek, lightweight feel were impressive. These binoculars are also marketed as Eagle Optics Rangers, and they're a phenomenal bargain at one-third the price of my Swarovskis. Swift Ultra Lites, which not long ago ruled the midpriced market, no longer rate as highly as these other models in terms of image quality or feel.

In the \$200 to \$400 range, the Ranger 7x36s by Eagle Optics were clearly the first choice of our reviewers. These binoculars are waterproof, provide a sharp image, and their price is unbeatable, making them probably the best buy of the entire lot.

The other Eagle Optics models we tested were also superior to anything else in this category. Somewhat disappointing were the Zeiss 8x30s, which did not live up to the company's fine reputation and standards but are still a decent choice within this price range. Both Optolyth samples we tested were badly out of alignment, contributing to their low rankings and making us wonder about quality control. The image provided by the Pentax 10x50s seemed darker than that of other 10x50s, plus they were poorly balanced and couldn't focus closer than about 18 feet.

Budget bargains and compacts

In the under \$200 category, the Eagle Optics Ranger 8x32 was the top choice, followed by the Eagle Optics Voyager 8x42 and the two Nikon models. These all offer an acceptable image for general birding and are a vast improvement over the majority of budget models we've tested in the past. The Nikon Naturalist IV gave the best view with my eyeglasses on and an incredibly wide field without glasses. At the bottom of the list, the Celestron Enduros elicited visible pain on the faces of the reviewers—I wouldn't wish these on any beginning birder.

All but one of the compact models we tested fell in the budget price range. The one exception, Bausch and Lomb's 7x26 Custom Compact, is still the only compact model I'd recommend for birding. I'm always amazed when I look through these. Their sharp, bright image and surprisingly wide field of view (even with glasses on) are roughly equal to those of the company's much larger and pricier 8x42 Elites. Our reviewers' second choice was split between the Nikon Diplomat 8x23s and Eagle Optics Voyager 8x25s, which both performed much better than the remaining compacts. If you like compacts and don't wear glasses, the Voyagers are certainly the best buy in their price range; in fact, in terms of image quality and feel, these surpassed many of the low- and even mid-priced models. They also may be a perfect choice for kids.

The final word

I applaud the many optical manufacturers who provided such a wide range of binoculars in every size, shape, and price range. I know there are quite a few other models out there that we didn't test, but we'll try to cover many of them in future "Critics' Corner" columns. My final words of advice to binocular shoppers are these: (1) Determine your spending limit, then narrow your choices by selecting the power, weight, and specification ranges that best fit your needs; (2) Test as many models as possible to find the ones that work best for you; (3) Go for the highest optical quality you can afford—in the long run, all other factors will be secondary; (4) If you're shopping for budget binoculars, don't peek through the \$1,000 models on the next shelf—you may have to go to the bank for a loan; and (5) No matter what you buy, get out there and find some good birds.

Eagle Optics will donate 5% to the Lab when you buy from their online store through [this link](#).

Binocular Features Table

"Top guns" (over \$700)									
Oversized									
	Price	Weight (oz.)	Close focus	Field of View	Overall image	Feel	Eyeglasses	Category rank	Features
Leica 10x50 BA	\$1,345	43.1	14'8"	14 (16)	1.5	2.8	1.7 (s)	7.0	rp, w, c
Leica 8x50 BA	\$1,295	43.0	16'2"	22 (19)	1.5	2.8	1.7 (s)	7.3	rp, w, c
Swarovski 10x50 SLC	\$1,332	45.5	14'8"	19 (19)	1.3	2.5	1.2 (t)	3.6	rp, w, c
Swarovski 7x50 SLC	\$1,221	43.5	12'	24 (24)	1.3	2.5	1.2 (t)	8.3	rp, w, c
Swarovski 8x56 SLC	\$1,498	46.5	21'2"	24 (21)	1.3	2.8	1.4 (t)	8.5	rp, w, c
Zeiss Night Owl 7x45	\$1,300	45.2	8'8"	28 (28)	1.3	3.0	1.7 (r)	8.2	rp, w, c
Full-sized									
	Price	Weight (oz.)	Close focus	Field of View	Overall image	Feel	Eyeglasses	Category rank	Features
Bausch & Lomb Elite 10x42	\$ 860	28.8	5'	16 (16)	1.9	2.0	2.0 (r)	7.8	rp, w, c
Bausch & Lomb Elite 8x42	\$ 840	30.1	5'	19 (20)	1.9	2.0	2.0 (r)	9.0	rp, w, c
Leica 10x42 BA	\$1,145	33.2	13'2"	15 (14)	1.5	2.1	2.0 (s)	5.8	rp, w, c
Nikon Venturer 10x42	\$1,782	34.5	8'6"	18 (18)	1.3	1.5	1.2 (t)	1.6	rp, w, c
Nikon Venturer 8x42	\$1,660	35.5	7'11"	22 (21)	1.3	1.5	1.2 (t)	2.8	rp, w, c
Nikon Superior E 10x42	\$1,320	25.7	14'	18 (18)	1.8	2.4	2.3 (r)	9.0	pp, c
Swarovski 10x42 SLC	\$1,098	33.8	13'11"	18 (14)	1.3	1.9	1.6 (t)	4.4	rp, w, c
Swarovski 7x42 SLC	\$1,043	35.7	11'10"	25 (22)	1.3	1.9	1.4 (t)	7.8	rp, w, c
Zeiss 10x40 B/GAT	\$1,149	26.0	16'2"	17 (15)	1.6	1.8	1.6 (r)	5.3	rp, w, c

Binocular Features Table

Zeiss 7x42 B/GAT	\$ 950	28.1	11'6"	28 (23)	1.2	1.7	1.4 (r)	5.5	rp, w, c
Mid-sized									
	Price	Weight (oz.)	Close focus	Field of View	Overall image	Feel	Eyeglasses	Category rank	Features
Leica 10x32 BA	\$1,095	24.9	8'	17 (14)	1.6	1.8	3.0 (s)	2.8	rp, w, c
Leica 8x32 BA	\$ 945	23.9	6'	21 (16)	1.4	1.4	2.0 (s)	2.0	rp, w, c
Swarovski 8x30 SLC	\$ 832	22.8	13'	22 (17)	1.6	2.8	1.7 (t)	2.6	rp, w, c
Swarovski 7x30 SLC	\$ 732	23.1	12'2"	25 (20)	1.6	2.6	1.7 (t)	3.8	rp, w, c
Nikon Superior E 8x32	\$ 936	20.8	8'6"	24 (21)	1.6	2.2	2.7 (r)	3.8	pp, c
Midpriced (\$400—\$700)									
	Price	Weight (oz.)	Close focus	Field of View	Overall image	Feel	Eyeglasses	Category rank	Features
Celestron Regal 10x50	\$ 700	28.8	7'10"	16 (18)	2.6	1.9	2.7 (r)	3.6	rp, w, c
Celestron Regal 8x42	\$ 650	24.3	4'10"	21 (21)	2.4	2.4	3.0 (r)	4.4	rp, w, c
Fujinon 7x42	\$ 690	31.9	10'	22 (24)	2.2	2.2	3.0 (s)	3.7	rp, w, c
Kowa 8x45	\$ 416	29.9	18'10"	20 (19)	2.2	2.8	3.0 (r)	3.2	rp, w, c
Mirador 8x40	\$ 440	24.4	15'8"	21 (18)	3.0	3.3	3.0 (r)	7.7	pp, c
Optolyth Alpin NG 8x40	\$ 459	21.6	22'5"	17 (18)	3.5	3.8	3.3 (r)	9.0	pp, c
Optolyth Alpin NG 7x42	\$ 479	21.5	25'	19 (18)	3.5	3.8	3.3 (r)	9.4	pp, c
Pentax 10x42 DCF HR	\$ 550	24.8	15'	16 (17)	3.2	3.1	2.7 (r)	7.6	rp, w, c
Swift Viceroy 10x42	\$ 690	25.0	4'10"	15 (16)	3.2	2.6	2.7 (r)	6.1	rp, w, c
Swift Eaglet 7x36	\$ 680	21.5	4'	21 (23)	2.1	2.3	2.7 (r)	4.4	rp, w, c
Swift Ultralite	\$ 460	20.9	16'2"	16	2.7	3.0	3.2 (r)	6.3	pp, c

Binocular Features Table

10x42				(14)					
Swift Ultralite 8x42	\$ 440	21.1	11'4"	18 (18)	2.7	3.0	3.0 (r)	5.6	pp, c
Zeiss 8x30	\$ 450	15.5	13'2"	19 (18)	2.6	4.0	3.3 (r)	6.0	rp, w, c
Low-priced (\$200—\$400)									
	Price	Weight (oz.)	Close focus	Field of View	Overall image	Feel	Eyeglasses	Category rank	Features
Celestron Ultima 8x40	\$ 340	20.9	14'	21 (18)	3.0	3.5	3.0 (r)	5.7	pp
Celestron Ultima 8x32	\$ 325	19.2	13'10"	19 (17)	3.5	3.5	3.0 (r)	6.7	pp
Celestron Adventurer 8x32	\$ 240	25.2	10'3"	14 (17)	4.0	4.0	3.5 (r)	7.8	pp
Eagle Optics Ranger 10x42	\$ 348	25.0	5'	16 (16)	2.3	2.7	3.0 (r)	2.3	rp, w, c
Eagle Optics Ranger 7x36	\$ 288	22.4	4'	22 (23)	2.2	2.3	3.0 (r)	1.7	rp, w, c
Eagle Optics Voyager 9.5x44	\$ 298	24.9	15'2"	19 (16)	3.0	3.0	3.0 (r)	2.3	pp, c
Mirador 7x42	\$ 377	22.2	18'6"	24 (21)	3.0	4.3	3.5 (r)	6.3	pp, c
Pentax 10x50 PCF	\$ 274	34.5	17'10"	14 (16)	3.3	4.3	3.0 (r)	6.0	pp, c
WB Unlimited (Celestron) 8x42	\$ 370	20.7	13'6"	19 (18)	2.7	3.0	3.0 (r)	5.6	pp, c
Budget (under \$200)									
	Price	Weight (oz.)	Close focus	Field of View	Overall image	Feel	Eyeglasses	Category rank	Features
Bushnell 8x42 WA	\$ 119	26.5	13'6"	19 (19)	4.0	3.6	3.0 (r)	6.4	pp, c
Celestron Bird Watcher 10x50	\$ 180	28.3	17'6"	14 (16)	3.5	4.0	3.7 (r)	6.0	pp, c
Celestron Bird Watcher 8x40	\$ 170	24.2	10'10"	18 (17)	3.9	3.3	3.7 (r)	6.6	pp, c
Celestron Bird	\$ 160	21.9	8'	22	4.0	3.4	3.7 (r)	5.4	pp, c

Binocular Features Table

Page 4 of 5

Watcher 7x35				(21)					
Celestron Enduro 8x40	\$ 80	24.3	12'4"	21 (15)	4.8	4.2	4.3 (r)	9.4	pp, c
Celestron Enduro 7x35	\$ 80	21.2	15'	20 (18)	4.4	4.4	4.7 (r)	9.6	pp, c
Eagle Optics Voyager 8x42	\$ 168	21.6	11'6"	21 (19)	3.4	3.0	3.7 (r)	3.4	pp, c
Eagle Optics Ranger 8x32	\$ 158	19.6	12'	20 (18)	3.4	2.8	3.3 (r)	2.4	pp, c
Nikon Egret II 8x40	\$ 170	25.4	13'6"	19 (16)	3.4	3.0	3.7 (r)	3.2	pp, c
Nikon Naturalist IV 7x35	\$ 144	23.8	8'10"	30 (21)	3.8	2.8	3.0 (r)	3.0	pp, c
Mirador 8x32	\$ 188	21.7	7'2"	18 (14)	4.3	3.3	4.0 (r)	6.3	pp, c
Compact									
	Price	Weight (oz.)	Close focus	Field of View	Overall image	Feel	Eyeglasses	Category rank	Features
Bausch & Lomb Custom 7x26	\$ 279	7.2	7'11"	20 (19)	2.0	2.2	2.8 (r)	1.4	rpp, c
WB Unlimited (Celestron) 7x25	\$ 99	11.0	9'6"	18 (16)	3.4	2.5	3.8 (r)	5.3	rpp, c
Eagle Optics Ranger 8x24	\$ 144	8.0	9'	17 (13)	3.0	3.6	3.5 (r)	5.0	rp, c
Eagle Optics 8x24 UCF (Pentax)	\$ 108	12.9	5'	18 (14)	3.2	3.2	3.3 (s)	4.8	rpp, c
Eagle Optics Voyager 8x25	\$ 59	11.5	9'10"	17 (14)	2.8	2.4	2.8 (r)	2.5	rpp, c
Nikon Diplomat 8x23	\$ 272	10.5	7'5"	16 (16)	2.8	2.3	3.3 (r)	2.6	rpp, c
Swift Micron 8x25	\$ 130	9.4	9'4"	17 (14)	3.6	3.4	4.0 (r)	5.6	rpp, c

Price: Manufacturer's suggested retail price. Actual prices are often much lower.

Field of View: Measured as width of field (inches) seen from a distance of 15 feet. () = field of view with eyeglasses.

Overall image: Compared across all models (scale of 1-5, with 1 being the best).

Feel: Compared across all models (scale of 1-5, with 1 being the best).

Eyeglasses: Overall "friendliness" to eyeglass wearers (scale of 1-5, with 1 being the best), r = rubber eyecups, s = snapping eyecups, t = turning eyecups.

Category rank: Overall subjective ranking by 10 reviewers within price/size category (the lower the number, the better the ranking).

Features: rp = roof prism, pp = porro prism, rpp = reverse porro prism, w = waterproof (sealed), c = case.

Please note: Numbers in bold type represent noteworthy ratings within a given category and price level.

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The Latest Crop of

Model	Optics	Weight (oz)	Close focus (ft)	Field of view at 1000 yards (ft)	Exit pupil (mm)
 Rainier 8x42	extra-large BAK4 prisms, UBX fully multi-coated, SHR metallic coating, PXA phase coating	32	6.5	393	5.3
 Naturescape 10x42	fully multi-coated, BAK-4, phase coated	21	6.6	293	4.2
 Elite 10x50	Bak-4 prisms with XTR coating, fully multi-coated lenses with RainGuard	29	10	288	5.0
 XM-842 HD	BAK-4 glass, fully multi-coated lenses	28	13.1	330	5.25
 Outland LX 8x42	four-element objective lens, fully multi-coated roof prism	23	6	388	5.3
 Ranger SRT 8x42	phase-corrected fully multi-coated	21.8	5.2	341	5.25

Binoculars

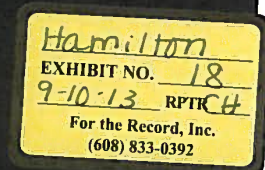
If you want to stay abreast of new optics, then check out this roundup of models released within the last year. Perhaps you'll find a suitable gift—or an item to put on your wish list.

Eye relief (mm)	Waterproof	Nitrogen-filled	Rubber-armored	Included accessories	Suggested retail price	Contact info
18	yes	yes	yes	quick-release neck strap system, carrying case	\$1,200	Alpen Optics, 877-987-8370, www.alpenoutdoor.com
15.1	yes	yes	yes	lens cleaning cloth, neck strap, soft carrying case	\$250	Barka, 909-445-8168, www.barka.com
17	yes	yes	yes	molded case, quick-connect strap, microfiber cleaning cloth	\$1,600	Bushnell Outdoor Products, 800-423-3537, www.bushnell.com
22	yes	yes	yes	soft case with carrying strap, lens caps, neck strap, cleaning cloth	\$350	Carson Optical, 800-967-8427, www.carson-optical.com
18	yes	yes	yes	Neoprene carrying case, lens caps, neck strap	\$150	Celestron, 310-328-9560, www.celestron.com
19.5	yes	yes	yes	Cordura case, tethered objective lens covers, rainguard, neck strap	\$300	Eagle Optics, 800-426-0048, www.eagleoptics.com

LIVING BIRD

Cornell Laboratory of Ornithology

WINTER 2005



SW02822

THE AGE *of* BINOCULARS

BY KENNETH V. ROSENBERG

Are birding binos reaching the pinnacle of evolution?

It's been five years since we last published a comprehensive review of binoculars for birders, and in that time the number of models available in all price ranges has more than doubled. So it should not have surprised us when our request for sample products from the major optics manufacturers drew such a whopping response. Nearly 80 pairs of binoculars arrived at the Lab of Ornithology this past summer, with a combined value of well over \$50,000 and a total weight of more than 100 pounds. This proliferation of binoculars, in every size, shape, and style, made us think of the so-called "Age of Dinosaurs," when these strange reptilian beasts occupied nearly every niche imaginable, only to face a mass extinction that reduced their diversity to only the hardiest forms. Only time will tell whether the current "Age of Binoculars," spurred on by the tremendous growth in birding and the willingness of more birders to splurge for quality optics, will crash like the dinosaurs in the face of over-diversification and stiff competition. For now, the flood of optics is both good news and bad news for a birder in the market for a new pair of bins.

The bad news is that the number of choices can be dizzying, and distinguishing between similar models is increasingly difficult. But the good news is that competition for your hard-earned dollars has resulted in higher and higher quality in binoculars, and many features that were rarely offered only five years ago have now become standard.

Among the encouraging trends we've noticed is that optics manufacturers are continuing to improve the quality of their glass and their lens coatings, creating products that provide unbelievable images. Today's mid-priced binoculars in many cases seem better than the top-of-the-line models of a decade ago. The vast majority of models we reviewed are lightweight, ergonomic roof-prism binoculars that—according to their manufacturers—are fully waterproof. Seventy-seven percent of the models we tested have a minimum close focus under 10 feet. And a majority of the models offer turn-and-lock eyecups and excellent eye

relief, so that eyeglass wearers should never again have to settle for anything less than a perfect view.

The Five-Step Plan

Even with all the complexity and subtlety in the binocular market, choosing the right pair for you still involves a rather simple, straightforward process.

Step 1. Decide how much you can afford to spend. There's no point in lusting over optics you can't afford. On the other hand, remember that if you buy inexpensive binoculars that don't hold up, you may be purchasing another pair soon. An investment in quality binoculars today may last you a lifetime and will definitely enhance your enjoyment of birding.

Step 2. Decide whether you want 10x or 8x (or 7x) binoculars. People's preference in magnification is highly subjective and depends in part on the kind of birding you do. Many tour leaders and instructors recommend using lower magnification binoculars, because they usually have a wider field of view, which allows you to find birds faster and more easily, especially in dense forests. And, in direct comparisons, the 8x models often provide a noticeably brighter image than the corresponding 10x models—although, by a quirk of design, 10x binoculars usually weigh slightly less. But higher magnification can make a big difference in discerning the field marks of distant birds, especially when you're hawk watching, scanning flocks of shorebirds, or looking out over the ocean. My personal bias leans toward 10x binoculars for all kinds of birding. I've been using 10x and even 15x binoculars since I was a kid. I find that the greater magnification compensates for my poor eyesight, and I love seeing the fine detail on a close sparrow or warbler as much as making out the scapular pattern on a distant peep. Your budget could influence your choice. In general, it's more difficult to manufacture an inexpensive yet decent quality 10x, so if you're spending less than \$500, you'll get higher quality for your money in the lower magnification models.

Step 3. Decide what other features are most important

to you. To many birders, a wide field of view is essential for finding birds quickly. To others, depth of field or quickness of focusing might be more important. If you combine birding with stalking butterflies or dragonflies, a close focus distance (under 6 feet) is critical. If you bird while backpacking, weight and compactness might be your first considerations. Many of our reviewers favored the lighter, more ergonomic models, although some birders prefer a heavier, more "solid" feel. Two of my Sapsucker teammates from the World Series of Birding, for example, insist on carrying the heaviest (by far) binoculars in this review, because to them nothing surpasses their bright image. To me, the bottom line is always image quality—nothing can compensate for an image that is not sharp and clear. As you use the accompanying table in this review, you might find that binoculars with the features you care most about do not necessarily rate highest in terms of overall quality.

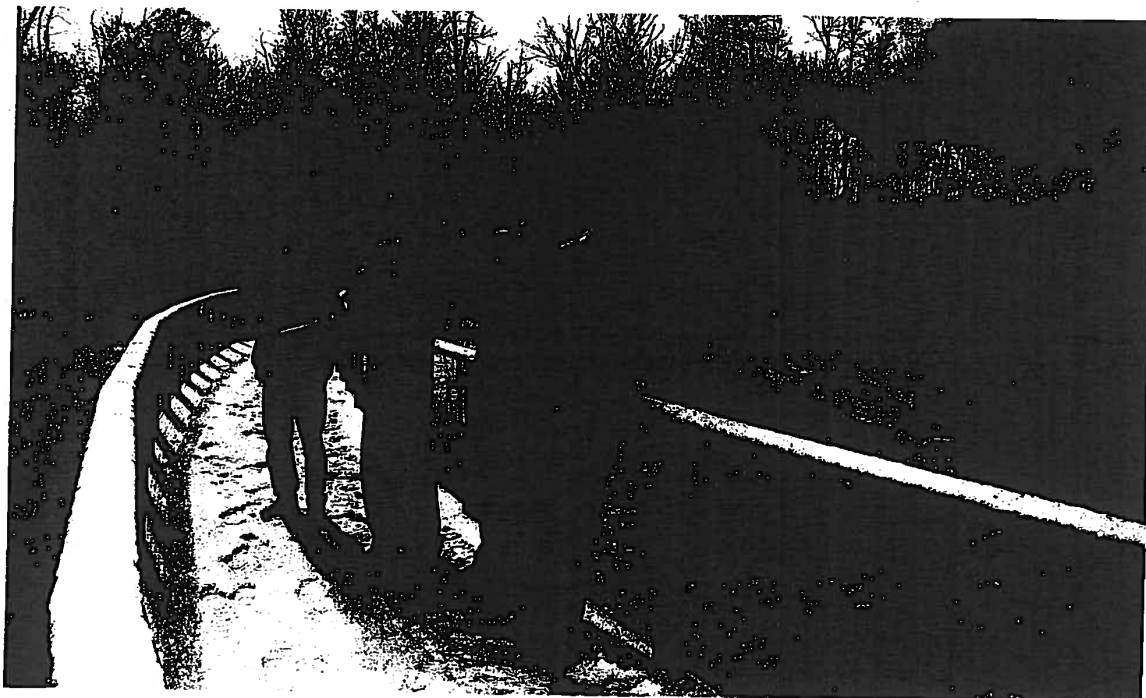
Step 4. If you wear eyeglasses (or share your bins with a spouse or child who does), pay special attention to the "eyeglass friendliness" column in our table. Our reviewers rated the degree of "tunnel vision" (due to poor eye relief) as well as the sturdiness and ease of use of the retracting eyecups. In general, turn-and-lock eyecups are far better than the older rubber eyecups (which tend to crack from frequent folding), but the long-term durability of the turning cups may be a problem too. Some manufacturers don't make much of an effort in this regard, but these days you should have little trouble finding a

"friendly" pair of binoculars in almost any price range.

Step 5. After you've narrowed your search to a few likely candidates (good luck!), there's no substitute for testing binoculars with your own eyes and hands. One thing I've learned in conducting these reviews is that no two birders hold or look through binoculars exactly the same way. The size of your hands, the shape of your face, how far apart your eyes are, how you focus, all help shape your personal preference. If possible, find a store that will allow you to test many models side by side before laying down your money. This is especially important if, like me, you bird with eyeglasses.

Sifting Through the Pack

One advantage to conducting a binocular review at the Lab of Ornithology is the ready availability of volunteer testers among our staff and friends, who range in experience from beginners to ace members of our big-day team, the Sapsuckers. In the end, 40 reviewers donated their time and their strong opinions. Each participant compared at least 10 models, and each model was tested by at least 10 reviewers. Five of us die-hards looked at every single pair. Some features were easy to measure precisely, such as weight, close-focus distance, and field of view. I measured the width of the visible field at a relatively close distance (15 feet), rather than using the "feet at 1,000 yards" reported by most manufacturers. I reasoned that the time when the field of view is most critical is when a bird pops up at close range.



TIM GALLAGHER

Several die-hard binocular reviewers (including author Ken Rosenberg at the far left) do their final testing the morning after the first snowfall of autumn.

Other features—image brightness, depth of field, and ergonomics—are more difficult to measure and can vary greatly from person to person. Here's where I relied on the subjective opinions of the reviewers, asking them to rate three important aspects of each pair on a scale from 1 (poor) to 5 (excellent). First was overall image quality, taking into account brightness, sharpness, edge-to-edge clarity, and any color aberrations or other problems. Second was overall feel—ergonomic design, balance, ease of focusing, and other usability features. Finally, I asked each reviewer with eyeglasses to rate the "eyeglass friendliness" of each model, considering the degree of tunnel vision due to poor eye relief and the usefulness and durability of the retracting eyecups. In the accompanying table, we present the average of all reviewers' ratings for each model.

To derive an overall quality rating for each model, I converted the range of values for close focus and field of view into a similar 1 to 5 rating. For example, any model that focused to less than 7 feet scored a "5" (excellent), whereas models focusing only to 15 feet or more scored a "1" (poor). Next, I totaled all the scores for each model, counting the score for image quality twice because of its overriding importance. Among the 78 binoculars we tested, the overall quality rating ranged from 12.6 to 29.4 out of a possible 30. Finally, within each broad price category, I used the overall quality ratings to rank each model from best to worst. This all might sound complicated, but the results are pretty straightforward and represent the subjective preferences of a wide range of reviewers.

Budget Bins

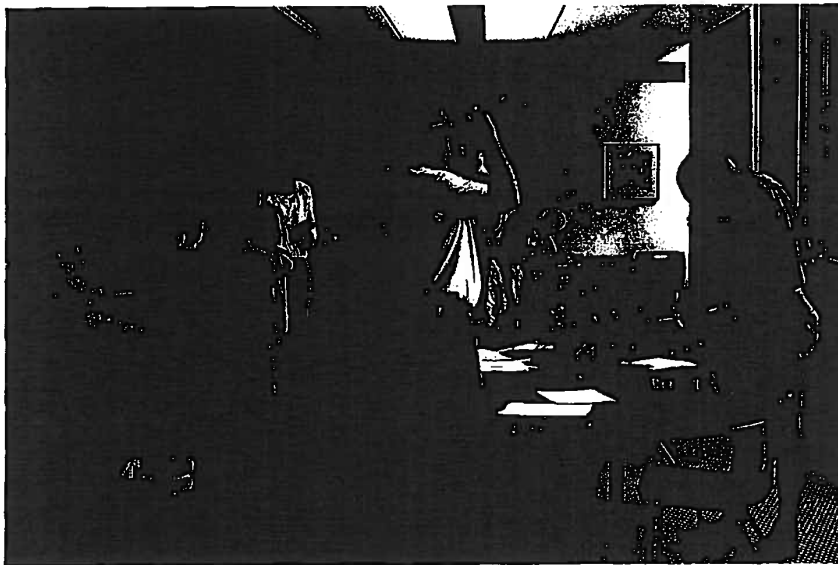
For the first time, birders on a tight budget have some real choices for decent binoculars. In past reviews, test-

ing the economy models gave us such eye strain, we kept a bottle of ibuprofen handy, but this time only a few of the cheapest compacts were truly awful to look through. Leading the economy group in overall quality was the Nikon 7x35 Action, a basic Porro prism model with an exceptionally wide field of view. Close behind was the Eagle Optics 7x32 Denali, a small, lightweight roof prism that certainly seems worth its very low price. Rounding out the top five economy models were the Audubon 8x42 Raptor, the two Bushnell Nature View models, and the Opticron 8x42 Imagic (all except the Raptor are a Porro-prism design). All of these models offer a very passable image, especially in the center of the field, and all work fairly well with eyeglasses. The Bushnell 10x42s offer the best choice for a truly inexpensive 10x binocular. The several compact models, along with the larger 8x42 Triumphs, are not recommended for birding and are especially useless if you wear glasses.

Affordable Quality

Perhaps the most pleasant surprise in this review was the high quality and usability found among binoculars in the \$200 to \$500 range. Top-rated among the 27 models in this category was the Leupold Wind River 6x32 Katmai, which has a bright clear image, compact and eyeglass-friendly design, wide field of view, and an exceptionally close focus. Although their low power will limit the usefulness of these binoculars for many types of birding, they are excellent for butterfly watching and would be great to keep by the window for close-up viewing of your backyard feeder birds. Unfortunately, the similar 8x32 model (at least the pair we tested) would not focus as crisply and had a flimsier overall feel. Close behind the tiny Leupolds was the Nikon Monarch 8x42, clearly the top-rated of any mid-priced, full-power birding binoculars. These lightweight, waterproof, and very comfortable binoculars focus down to 6 feet (they were given the name "Monarch" to attract butterfly watchers) and offer an image and feel that surpasses many models costing two or three times more. Only in a direct comparison with the top-priced binoculars could our reviewers discern the narrower, slightly duller image, which was not quite sharp at the edges. But with a street price well under \$300, the Monarchs are a steal.

Several other 8x42 models present some nice choices in this very affordable price range. The Opticron BGA Imagic, Leupold Wind River Pinnacle, and Celestron Noble all offer an image comparable



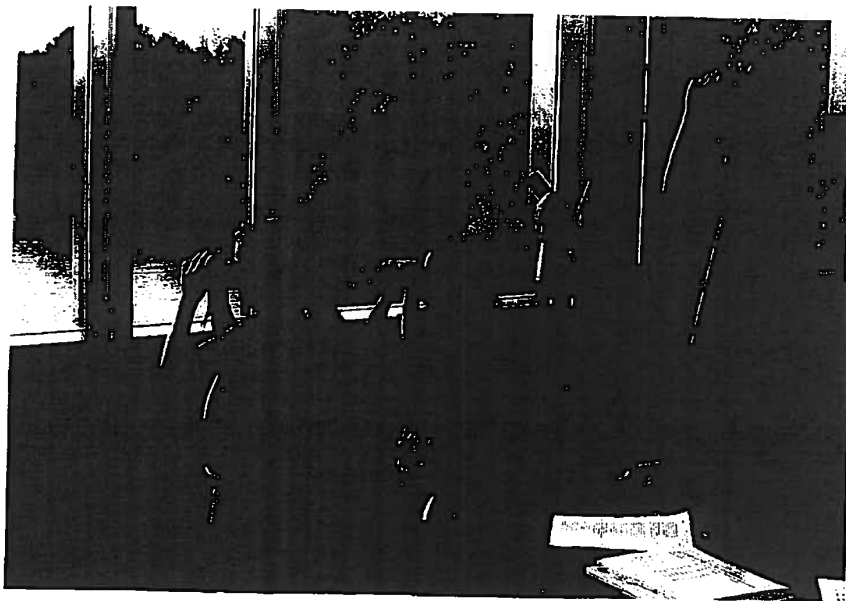
Many of the tests took place indoors in the Lab's second-story lunch room, which overlooks Sapsucker Woods Pond.

with the Monarchs, but their overall feel did not impress reviewers quite as much. The Eagle Optics Ranger PC, which ruled the mid-priced market for years, doesn't have quite as crisp an image and shows slightly greater distortion at the edge of the field. All of these models focus to about 6 feet or closer and work very well with eyeglasses. The Monarch 10x42 is the only 10x model among the top-10 rated mid-priced binoculars; these are also the most lightweight of any 10-power we tested. Comparable to the Monarchs in terms of image quality is Leupold's Wind River 10x50 Olympic, but a narrower field of view and a close-focus distance of only 10 feet contributed to their lower overall ranking. Other decent 10x binoculars in this

price range are Celestron's Regal LS 10x42 and 10x50 and Noble 10x50 models (interestingly, the less expensive Nobles ranked higher, especially in terms of feel and eyeglass-friendliness), as well as the Eagle Optics 10x42 Ranger PC. Again, the Rangers are not quite up to the competition in terms of image quality, but they have a nice lightweight feel and offer a wide field of view and excellent close focus.

Finally, worth mentioning in the \$200 to \$500 price range are several compact binoculars that can put high-quality optics in your shirt pocket. Top-ranked among the compacts was the Nikon 8x20 Premier LX, a tiny waterproof roof prism binocular with a sharp image and excellent close focus. Our testers complained about their awkward feel, however, and especially about having to focus with the pinky or ring finger. By comparison, the Bushnell 7x26 Custom Compacts, with nearly comparable image and a much more user-friendly design, are still perhaps the best compact binoculars available for birding. Also in this mix are the miniature Zeiss 8x20 Victory and the slightly pricier Swarovski 8x20 B; both provide a sharp image but suffer from an awkward feel and focusing mechanism. Most reviewers felt that these miniature binoculars were too small for serious birding.

In the \$500 to \$1,000 category, we were hoping to see some exceptional quality at prices that a wide range of birders could still afford. In general, though, the 14 models in this group did not rate any higher than the top-ranked, less expensive models. Once again, Nikon led the field with the 8x32 HG DCF, which received an overall quality rating comparable with many top-of-the-line binoculars. Although they offer a wider field of view and slightly closer focus, these Nikons were not notice-



A group of schoolchildren looked through the binoculars one afternoon and rated them from their unique perspective.

ably better than the inexpensive Monarchs in terms of image quality or overall feel. The only other model in this category worth mentioning is the Zeiss 8x30 B T* Conquest, which some reviewers felt offers the brightest, sharpest image of any binocular under \$1,000. These are extremely lightweight and nitrogen-filled, but they do not focus particularly closely and don't have the solid, rugged feel of other roof prism binoculars. It's worth noting that Zeiss offers the Conquest in a 10x, 12x, and even a 15x45, and they all weigh less than 20 ounces each.

Neck and Neck at the Top

Frequently as our dedicated and discerning binocular-testers sorted through the morass of glass, a loud "WOW!" would rise above the din. This signaled that someone had picked up one of the top-of-the-line offerings from Leica, Swarovski, or Zeiss. The stiff competition between these manufacturers has resulted in a superb set of choice models that not only provide almost unbelievable optical quality but are simply a joy to hold and use. It's safe to say that no clear winner emerged at the top of this heap, and I urge would-be buyers of \$1,000-plus binoculars to "test drive" your selections before taking out a second mortgage on the house or sending your kids to work in the mines. Each company boasts its own proprietary glass, coatings, and body designs, so these new models differ more from each other than do the "standard" roof prisms in the less expensive categories. All, however, offer the highest quality edge-to-edge image possible in a fully waterproof, nitrogen-purged, and eyeglass-friendly body, and they come with a lifetime warranty.

It's fair to say that Swarovski has set the pace for this burst of innovations by paying close attention to the

Category rank	Model	Power	Price	Quality index	Weight (ounces)	Close focus
	<i>ECONOMY (under \$200)</i>					
1	Nikon Action EX	7x35	\$130	22.7	29.4	8'4"
2	Audubon Raptor	8x42	190	21.3	29.0	11'7"
2	Eagle Optics Denali	7x32	89	21.3	22.9	8'6"
3	Bushnell Nature View	10x42	179	20.3	26.6	9'8"
4	Bushnell Nature View	8x42	149	20.1	26.7	11'4"
5	Opticron Imagic	8x42	189	19.3	24.3	12'3"
6	Audubon Raptor	10x42	199	18.6	29.1	11'10"
7	Tasco World Class	10x42	180	18.0	25.9	10'4"
8	Audubon wp Intrepid	8x40	150	17.8	24.8	10'0"
9	Audubon wp Intrepid	10x40	160	16.6	25.3	11'9"
10	Tasco World Class	8x42	160	16.5	25.8	10'2"
11	Eagle Optics Denali	9x32	99	16.2	22.0	9'0"
12	Eagle Optics Triumph	8x25	70	15.0	9.9	5'9"
13	Eagle Optics Triumph	10x25	80	14.9	11.4	8'2"
14	Eagle Optics Triumph	8x42	89	14.0	22.4	15'10"
15	Celestron Traveler	8x26	25	12.6	9.92	8'9"
	<i>MID-PRICE (\$200-500)</i>					
1	Leupold Wind River Katmai	6x32	370	27.7	19.5	4'4"
2	Nikon Monarch	8x42	431	26.0	21.3	6'0"
3	Opticron BGA Imagic	8x42	485	24.6	25.3	6'0"
4	Leupold Wind River Pinnacle	8x42	495	24.3	24.3	5'0"
5	Celestron Noble	8x42	269	24.1	22.7	6'1"
6	Nikon (compact)	8x20	500	23.3	9.7	6'0"
7	Eagle Optics Ranger PC	8x42	379	23.2	23.0	4'5"
8	Nikon Monarch	10x42	471	23.1	21.1	6'0"
9	Celestron Noble	8x32	249	23.0	20.0	3'6"
10	Leupold Wind River Katmai	8x32	390	22.9	24.3	3'10"
11	Zeiss B T* Victory	8x20	429	22.8	8.0	6'11"
12	Leupold Wind River Olympic	8x42	385	22.7	22.9	6'0"
13	Bushnell Custom Compact	7x26	380	22.5	13.0	8'3"
14	Celestron Regal LS	10x42	389	22.2	25.9	5'9"
15	Brunton Eterna	8x32	399	22.0	26.1	3'10"
16	Eagle Optics Ranger PC	10x42	399	21.8	22.7	4'6"
17	Bushnell Legend	8x42	418	21.7	29.8	6'0"
18	Audubon Equinox	8x42	240	21.6	23.6	3'9"
19	Audubon Equinox	10x42	260	21.4	23.4	4'0"
20	Celestron Noble	10x50	289	20.4	26.9	8'10"
21	Bushnell Legend	10x42	438	20.3	29.1	6'0"
22	Leupold Wind River Olympic	10x50	450	19.6	25.8	10'
23	Celestron Regal LS	10x50	424	19.0	29.8	9'11"
24	Bushnell Legend	12x50	460	18.9	33.3	9'6"

Field of view	Close focus score	Field of view score	Image quality	Overall feel	Eyeglass friendliness
3.0"	4	5	3.2	2.9	4.4
8.0"	3	5	3.3	2.9	3.8
4.5"	4	4	3.2	3.2	3.7
1.0"	4	2	3.4	3.7	3.8
2.0"	3	3	3.3	3.5	4.0
3.0"	2	3	3.5	3.3	4.0
4.0"	3	3	2.8	3.0	4.0
0.0"	3	2	2.9	3.4	3.8
2.5"	3	3	2.8	3.1	3.1
0.0"	3	2	2.7	2.6	3.6
2.0"	3	3	2.3	2.8	3.1
3.0"	4	1	2.4	3.1	3.3
2.0"	5	2	1.9	2.2	2.0
5.5"	4	1	2.4	2.3	2.8
3.0"	1	3	2.4	2.2	3.0
0.0"	4	1	1.6	2.0	2.4
3.0"	5	5	4.5	4.4	4.3
2.5"	5	3	4.3	4.7	4.7
2.5"	5	3	4.1	4.1	4.3
3.0"	5	3	3.8	3.9	4.8
2.5	5	3	3.8	4.2	4.3
3.0"	5	3	4.0	3.0	4.3
2.0"	5	3	3.6	4.0	4.0
0.0"	5	2	3.8	4.5	4.0
0.0"	5	4	3.2	3.8	3.8
4.5"	5	3	3.6	3.8	3.9
4.5"	5	4	3.6	3.1	3.5
4.5"	5	3	3.5	3.9	3.8
4.0"	4	3	3.8	4.0	3.9
0.0"	5	2	3.7	4.2	3.6
0.0"	5	4	3.3	3.1	3.3
0.0"	5	2	3.4	4.0	4.0
0.0"	5	3	3.6	3.1	3.4
0.0"	5	3	3.1	3.4	4.0
0.0"	5	3	3.0	3.4	4.0
0.0"	4	1	3.6	3.9	4.3
0.0	5	2	3.3	3.3	3.4
5"	3	1	3.9	4.0	3.8
0.0"	4	1	3.6	3.4	3.4
5"	4	1	3.3	3.6	3.7

Chart continues on the following pages.

Category rank

Based on quality index scores for price-range category

Price

Manufacturer's suggested retail price

Quality index

Sum of scores for image quality (times two), overall feel, eyeglass friendliness, close focus, and field of view. Possible range from 6.0 to 30.0

Field of view

Measured at a distance of 15 feet

Close focus score

1 = more than 15 feet
2 = 12-15 feet
3 = 10-12 feet
4 = 7-10 feet
5 = less than 7 feet

Field of view score

1 = less than 20 inches
2 = 20-22 inches
3 = 22.5-24 inches
4 = 24.5-27 inches
5 = more than 27 inches

Image quality, overall feel, eyeglass friendliness

Average of 10 or more reviewers' ratings, from 1 (poor) to 5 (excellent)

Category rank	Model	Power	Price	Quality index	Weight (ounces)	Close focus
	<i>MID-PRICE (\$200-500, continued)</i>					
25	Fujinon BFL	8x42	\$235	18.8	25.4	12'10"
26	Steiner Merlin	8x32	399	18.1	21.9	8'6"
27	Fujinon BFL	10x42	240	16.5	25.9	11'6"
	<i>TOP AFFORDABLE (\$500-1,000)</i>					
1	Nikon HG DCF	8x32	700	27.0	26.2	5'6"
2	Minox BD ALT BR	10x42	799	24.8	29.1	6'0"
3	Opticron Oasis WP	8x42	849	24.6	25.4	5'11"
4	Pentax DCF SP	8x43	698	24.0	25.3	4'8"
5	Minox BD ALT BR	8.5x42	759	23.7	28.5	6'0"
6	Zeiss B T Conquest	8x30	550	23.6	19.5	9'7"
7	Pentax DCF XP	8x33	558	23.0	18.6	3'9"
8	Fujinon CD	8x42	760	22.8	32.5	9'8"
9	Swift Audubon (RP)	8.5x44	629	22.6	25.6	9'10"
10	Fujinon CD	10x42	790	22.0	32.8	9'6"
11	Steiner Peregrine	8x42	899	21.3	26.2	5'2"
12	Brunton Compact Epoch	8x21	629	20.8	14.2	5'6"
13	Swarovski B	8x20	599	20.7	7.7	7'0"
14	Optolyth Alpin NG	10x50	611	13.5	29.0	26'0"
	<i>TOP GUN (over \$1,000)</i>					
1	Zeiss FL T*	8x42	1500	29.4	27.3	6'2"
2	Swarovski EL WB	8x32	1666	28.9	23.7	6'0"
3	Leica Ultravid BR	7x42	1500	28.6	28.5	9'11"
4	Leica Trinovid BN	8x32	1200	28.3	23.4	6'0"
5	Swarovski EL	8.5x42	1821	27.9	30.9	7'6"
6	Leica Ultravid BR	8x42	1550	27.5	28.8	9'3"
7	Zeiss Victory FL T*	10x42	1550	27.4	27.8	5'4"
8	Leica Ultravid BL	8x42	1600	27.1	26.7	9'2"
9	Swarovski EL WB	10x42	1888	26.2	29.0	7'5"
9	Leica Ultravid BR	10x42	1600	26.2	28.5	8'10"
10	Swarovski EL WB	10x32	1755	26.1	23.2	5'10"
11	Leica Trinovid BN	8x42	1300	26.0	33.8	9'1"
12	Swarovski SLC B	7x42	1254	25.6	36.0	12'0"
13	Nikon Premier LX	8x42	1200	24.8	28.3	8'6"
14	Leica Trinovid BN	10x42	1350	24.7	33.1	8'7"
14	Brunton Epoch X8S	8.5x43	1449	24.7	28.6	2'7"
15	Swarovski SLC WB	8x30	1066	23.1	23.5	13'0"
16	Brunton Epoch X10S	10.5x43	1499	22.7	29.3	2'6"
17	Swarovski SLC WB	10x50	1643	22.1	44.8	15'0"
18	Swarovski SLC WB	10x42	1310	20.9	33.8	12'8"
19	Optolyth BGA	8x56	1031	16.0	36.8	12'9"

Field of view	Close focus score	Field of view score	Image quality	Overall feel	Eyeglass friendliness
14.5"	2	4	3.1	3.1	3.5
12.5"	4	3	2.9	3.0	2.3
15.0"	3	4	2.4	2.7	2.0
7.0"	5	5	4.3	4.0	4.4
2.0"	5	3	4.1	4.2	4.4
4.5"	5	4	3.8	4.0	4.0
3.0"	5	3	3.7	3.9	4.7
1.5"	5	2	4.1	4.0	4.5
4.0"	4	3	4.4	3.7	4.1
3.0"	5	3	3.4	3.9	4.3
6.0"	4	4	3.7	3.4	4.0
2.0"	4	3	3.8	4.0	4.0
3.0"	4	3	4.0	3.5	3.5
3.0"	5	3	3.7	3.7	2.2
5.0"	5	4	2.7	2.7	3.7
4.0"	4	3	3.9	2.7	3.2
1/a	1	3	2.4	2.3	2.4
7.0"	5	5	5.0	4.4	5.0
7.0"	5	5	4.7	4.7	4.8
3.0"	4	5	5	4.6	5.0
7.0"	5	5	4.7	4.1	4.8
5.0"	4	4	5.0	4.9	5.0
3.5"	4	4	5.0	4.5	5.0
2.5"	5	3	5.0	4.5	4.9
1.0"	4	4	5.0	4.1	5.0
1.0"	4	3	4.9	4.8	4.6
1.5"	4	3	4.9	4.5	4.9
1.0"	5	3	4.6	4.6	4.3
1.0"	4	4	4.7	3.8	4.8
1.0"	3	5	4.8	3.4	4.6
1.0"	4	3	4.7	3.6	4.8
1.5"	4	3	4.8	3.4	4.7
1.0"	5	2	4.3	4.3	4.8
1.5"	2	4	4.6	3.5	4.4
1.5"	5	1	3.9	4.3	4.6
1.0"	1	3	4.9	3.4	4.9
1.5"	2	2	4.5	3.6	4.3
1.0"	2	3	3.1	2.2	2.6

Category rank

Based on quality index scores for price-range category

Price

Manufacturer's suggested retail price

Quality index

Sum of scores for image quality (times two), overall feel, eyeglass friendliness, close focus, and field of view. Possible range from 6.0 to 30.0

Field of view

Measured at a distance of 15 feet

Close focus score

1 = more than 15 feet
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Field of view score

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4 = 24.5-27 inches
5 = more than 27 inches

Image quality, overall feel, eyeglass friendliness

Average of 10 or more reviewers' ratings, from 1 (poor) to 5 (excellent)

needs and criticisms of serious birders. Swarovski's EL series was the first to sport a combination of lightweight magnesium-alloy body, wonderfully ergonomic features, twist-and-lock eyecups, and the highest-quality optics. Zeiss and Leica have now followed with their own versions, offering a lightweight, ergonomic design and a superb image, bucking their previous trends towards heavier and bulkier binoculars. Although your choice will undoubtedly come down to personal preference (or brand loyalty), a close look at the ratings in our table will reveal some subtle differences that might tip the balance toward one model or another.

In terms of pure image quality, six models received "perfect scores" from our reviewers, indicating an absolutely flawless, bright, and crisp-from-edge-to-edge image. Of these, the Zeiss 8x42 FL T* scored the highest for overall quality of any binocular tested, combining its exquisite image with perfect eye relief, a relatively wide field of view, and excellent close focus. The similar Zeiss 10x42 was the only 10x model in our test to receive this highest image rating. Some reviewers were critical of the ergonomics of these Zeiss models, however, labeling them as "forward-heavy," "not comfortable," "too knobby," and even "flimsy." Rounding out the "perfect-image" club were Leica's 7x42 and 8x42 Ultravids and Swarovski's 8.5x42 EL. These ELs received the highest scores of any binocular for all three subjective categories, with especially high marks for overall feel. Typical comments were "very ergonomic," "nice feel," "well balanced," and "wow!" (Personally, I'd like to have a pair of these surgically implanted in my palms.) The Ultravids represent a leaner, meaner version of the rather bulky Leica Trinovids, with an even brighter, crisper image in direct comparison. Although the new Leicas won instant fans among our testers, others were less than enamored with their overall feel, and these Leicas don't focus as closely as the other top models.

Both the Leica Ultravid and Swarovski EL 10x42 models ranked only slightly behind their 8x42 counterparts, primarily due to a slightly less bright (but still superb) image and a correspondingly narrower field of view. Again the ELs won out in terms of ergonomics, but they unfortunately do not offer quite enough eye relief to avoid slight tunnel vision with eyeglasses. The new Swarovski 8x32 and 10x32 EL models represent an even further innovation in lightweight, ergonomic design. The slight loss in image brightness is compensated for by a wider field of view and an even closer focusing distance than the larger ELs—in fact, the 10x32s offer the widest field of any 10x roof prism binocular we've seen. In addition, I found the small ELs to be especially easy and fast to use with one hand, for example, when I was carrying a scope. Unfortunately, I don't get a full field of view from the 10x32s with my eyeglasses on.

Leica did not send us their brand new 8x32 or 10x32 mid-sized models, which are even more lightweight than the ELs and undoubtedly will give Swarovski another run for their money. The older Trinovid 8x32s—which led the mid-sized category in our last review—still ranked fourth in terms of overall quality. Finally, worth mentioning because

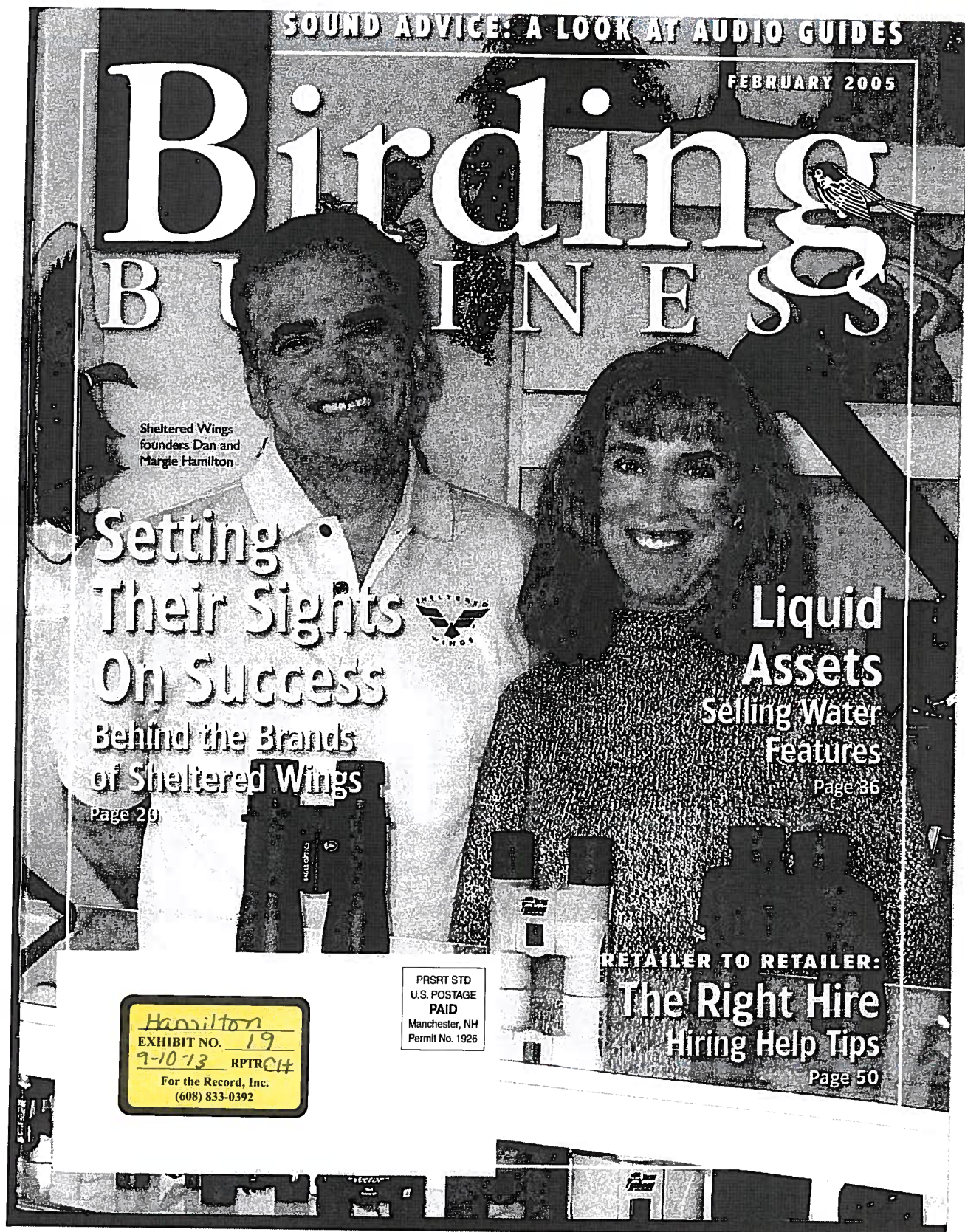
of its exquisite image is Swarovski's honking big 10x50 SLC—still probably the brightest 10x on the market. At least a few top birders I know insist on carrying these, in spite of their excessive weight, relatively narrow field of view, and poor close focus. I'd love to see these in an EL version.

Three additional manufacturers have vied for a share of the top-of-the-line binocular market, and two of these should be commended for their efforts. Nikon, which now leads in all of our less-expensive categories, sent us a prototype of their brand new 8x42 Premier LX, a reworked, more lightweight version of their acclaimed Venturer. Although the image offered by these new Nikons is excellent, it didn't quite match the top-ranked models (one reviewer noted slight color-fringing), and some reviewers did not care for their heavier and bulkier feel (ironic, because the Nikon Venturer set the standard for usability five years ago). But a lower suggested retail price than most other top models may make these binoculars quite attractive. The newest player in the fine optics game is Brunton, which offers the 8.5x43 and 10x43 Epoch XS models. These have some nice features, such as eyecups that lock in multiple positions and unheard of close-focusing distances (though at these distances you need to use one eye), and they are very cool looking. But our reviewers were disappointed by their optical quality, and several of them cited visible color fringing and the relatively narrow field of view on both models.

Ken's Parting Thoughts

So, if your birding has evolved to new levels, but this new age of binoculars is passing you by, I offer the following thoughts and personal recommendations. First, if you think your old binoculars are still just fine, you may want to think again. The improvements in image quality and usability really do make a difference, both in your ability to identify birds and in your enjoyment of birding. Look through a new pair and see for yourself. Second, if you're in the market for new optics, I recommend spending as much money as you can afford. Even beginners and kids will benefit from higher quality binoculars, and the investment in durability or a lifetime warranty might save you money in the long run. Finally, if you buy some new binoculars, I ask you to consider the fate of your old optics. As birding and bird-conservation efforts flourish worldwide, ornithologists and birding guides throughout Latin America and the Caribbean often lack the means to purchase the basic tools of their trade. Fortunately, at least two programs have been set up to deliver donated used binoculars to these very deserving and grateful people, and I urge you to support these efforts. For more information, check out the American Birding Association's Birders' Exchange at <www.americanbirding.org/bex> and Optics for the Tropics at <www.opticsforthe tropics.org>. ■

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Cover photo courtesy of Sheltered Wings

COVER STORY

Multiplying Brands

By Peter Stangel
Contributing editor

Sheltered Wings focuses optics lines on affordable quality

Sheltered Wings has attracted the attention of the industry in recent years for its affordable, quality optics. More than 95 percent of its Eagle Optics brand sales are made in Wild Birds Unlimited stores. But the company has branched out in recent years, taking its optics philosophy beyond its partnership with WBU.

At Birdwatch America last month, Sheltered Wings unveiled a new line carrying the name of Don and Lillian Stokes, the popular couple who have taken birding to millions through TV and videos. The new line is aimed at the premium market.

Birding Business Contributing Editor Peter Stangel sat down with Sheltered Wings President Dan Hamilton to get his insights on his success.

How did you get involved with the birding industry?

I found it a very relaxing and enjoyable hobby. I was a dentist, both in the Air Force and in a private practice in Indiana. It was a very demanding job. I hiked and birded to relax, then added feeders and baths in my yard. Sitting back and just watching birds was such a psychological release.

One day my wife, Margie, saw an advertisement from a newly opened Wild Birds Unlimited store in nearby Fort Wayne, Ind. We just knew that this would be our kind of store. After visiting, we decided that owning one of those stores was what we wanted to do.

I got in touch with [WBU founder] Jim Carpenter. He suggested we consider Wisconsin for a new store. We'd never been to

Wisconsin, but it sounded like a good idea!

We opened our Wild Birds Unlimited franchise in Madison in 1986. It was one of the very first stores, and it's been going strong ever since.

How did you make the leap to mail order and Eagle Optics?

We had many customers in the store asking about binoculars, and we really didn't have much to offer them. Back then, most people bought optics from camera stores.

I asked Jim Carpenter how we could help these customers. He was interested, and suggested that I look into the possibilities of offering a nice selection of optics in the stores.

I found that to offer competitive prices we would have to order large quantities, which was beyond our means at the time. We just weren't big enough to get the best deals. Back then your price was based on the size of your order.

I asked Jim what he thought about me starting a mail-order business and then selling product back to the stores at the wholesale level. He liked the idea, so in 1987 we started Eagle Optics. Today, Eagle sells a wide range of optics from a variety of manufacturers, as well as our own brands.

As the Wild Birds Unlimited franchises increased in numbers, we found that Eagle Optics was competing with these stores for sales, which obviously isn't where I wanted to be. On top of that, the margins for most optics were not very good, so neither Eagle nor the franchisees were doing as well as we wanted.

In about 1995 I started developing an Eagle Optics brand. The goal was to produce quality optics that would provide a more sustainable margin for me and for the stores. We developed a Wild Birds

Unlimited brand just for them as well.

Then about five years ago, we decided to make Eagle Optics the in-store brand for Wild Birds Unlimited. We discontinued the WBU brand, and started to focus on better name recognition among birders for the Eagle Optics brand.

We also began promoting Wild Birds Unlimited stores as the source for Eagle Optics products in magazine ads and on our website.

It's been a good partnership. Eagle and Wild Birds Unlimited are now not only *not* competitors, but we also build on each other's successes.

We have been able to bring profitability in optics to Wild Birds Unlimited franchises. The optics are a good value for consumers, and the margins are good for the average store.

Today, 95 percent or more of Eagle Optics brands sold in a retail environment are sold at Wild Birds Unlimited.

And the third of your birding businesses, Sheltered Wings?

We saw that to continue to be successful, we had to provide similar advantages to other wild bird retail stores that we were providing to Wild Birds Unlimited. A few years ago, we launched Sheltered Wings to address this need.

Through Sheltered Wings we offer other brands such as Audubon, which is licensed from National Audubon Society. We have the same philosophy at Sheltered Wings that we have at Eagle Optics: good values for birders and meaningful profit margins for our dealers.

We use discretion in choosing dealers, so we have some control over how the product is sold. We want to make sure that we can provide good service to the dealers, and that they in turn can provide quality service to customers.

ShelteredWings At a Glance

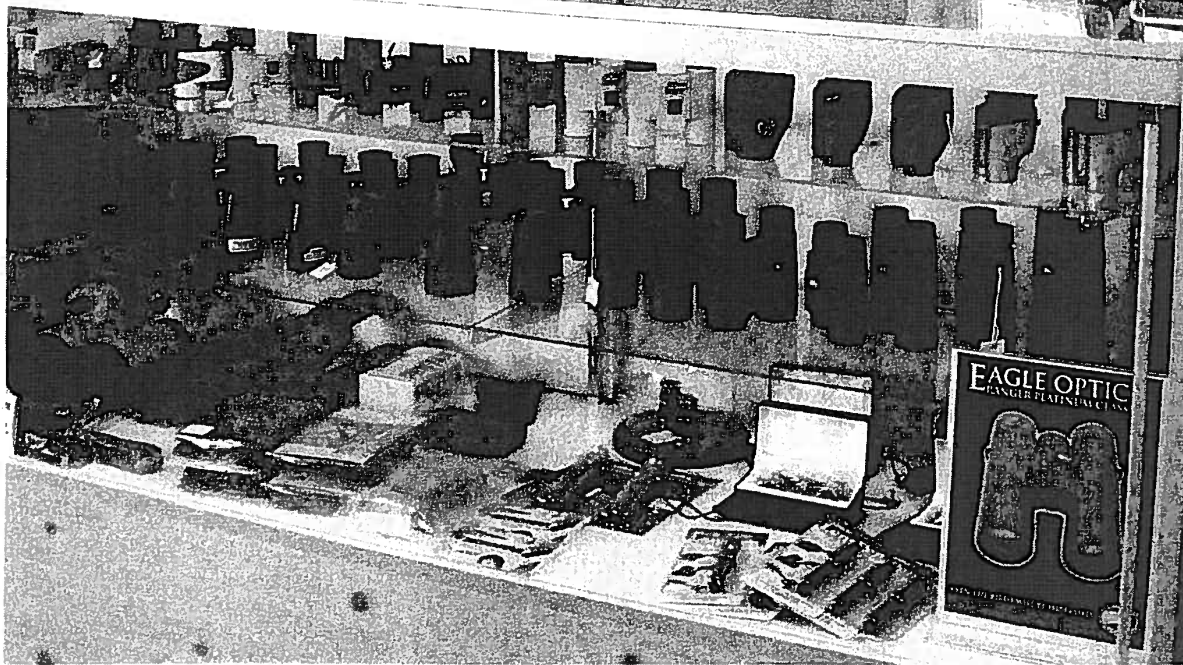
10 percent: Annual growth each year for 10 years

30: Sheltered Wings staff

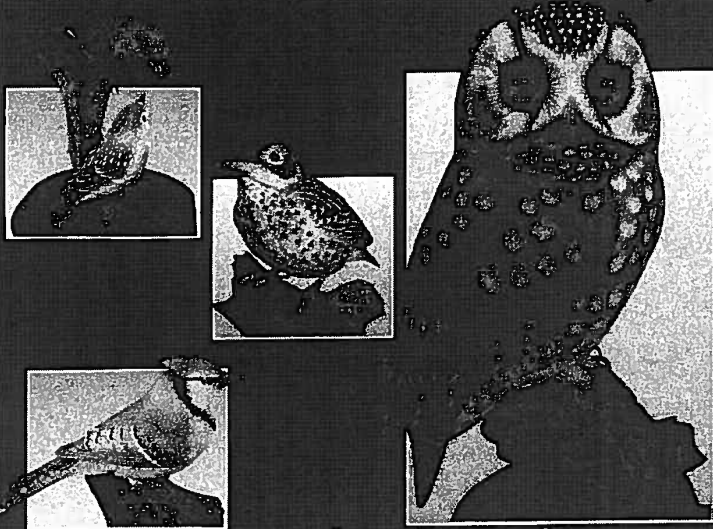
1995: Eagle Optics brand started

2000: WBU changes in-store brand to Eagle

2001: Sheltered Wings launches national brands for specialty retailers



"The Finest in Hand Carved Wooden Wildlife"



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Is the business growing?

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Today, Eagle Optics and Sheltered Wings together employ about 30 people.

Can you sum up the Sheltered Wings philosophy?

We think that our experience in retail as a wild bird specialty shop gives us a unique perspective and advantage in providing the right products and support for our dealers and customers.

We treat customers — retail or wholesale — the way we would like to be treated. It's that simple. We help make it possible for even small retailers to offer quality optics at competitive prices and good margins. I think this is an important part of helping fuel the birding boom. 🐦

Peter Stangel (stangel@nfwf.org), a life-long birder and director of the National Fish and Wildlife Foundation's Southeast Region Office, works with corporations to develop conservation and environmental programs.

Brands

- **Eagle Optics:** Sold by WBBU stores
- **Sheltered Wings:** Parent company of national brands
- **Audubon Binoculars:** Sold by birding and other specialty retailers
- **Vortex:** Rugged outdoor optics. Includes new Stokes line.
- **Masterpiece Collection:** Opera glasses for theatregoers
- **Sportoculars:** Official binoculars of NCAA colleges
- **Radian:** Tripod line for general outdoor use

Wisconsin State Journal

BUSINESS

PERSONAL FINANCE: OPTIONS FOR YOUR 401(K) IF YOU LEAVE YOUR JOB PAGE B3



Getting
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COMING MONDAY
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SUNDAY

OCTOBER 14, 2007

Charges B2
Money Markets B3
Other markets B4
Business editor
Tom Swartz
608-252-6155
tomswartz@wiscnsj.com

B

Some see a boost in HOLIDAY HIRING



Jasmine Eckhoff, of Evansville, is training for a job in the call center of Duluth Trading Co., an online and mail-order retailer in Belleville. The company specializes in study work clothing. Duluth Trading is hiring 350 seasonal employees this year, an increase of nearly 50 percent over a year ago.

And for many the process starts several months in advance

By JUDY NEWMAN
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608-252-6156

Signs of the Christmas season are peeking out early this year, weeks before Halloween. Seniors have taken up residence atop the growing card aisle at Walgreen drug stores around the area and Macy's and Kohl's stores have set out their Christmas wares, with trees, accessories and ornaments decking the sides. But if retailers are trying to sneak in an early start to holiday shopping, there's nothing secret about their efforts to sign on extra staff to work the busy season. Holiday hiring started months ago for several major Madison area employers. And while seasonal job forecasts are backscatter nationwide, at least some local businesses are boosting their holiday crews this year.

Confidence in products

Duluth Trading Co., Belleville

On the Internet

American Girl:
www.american-girl.com
Duluth Trading Co.:
www.duluthtrading.com
Lands' End:
www.landsend.com

held a weeklong job fair in September with the hope of hiring 350 seasonal workers, up from 240 last year — a 46 percent increase.

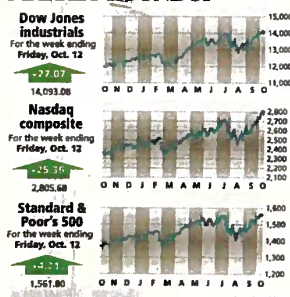
"We are hiring more simply because we anticipate greater sales. We have products we are very confident in," said spokesman Mike Klawns. Finding applicants was not a problem. More than 700 people showed up. Twenty to 30 percent of this year's holiday hires are returning seasonal workers, Klawns said. A discount averaging 40 to 50 percent on Duluth Trading merchandise is a potent incentive, he added.

Duluth Trading, a catalog and Internet retailer, is known for its work clothes, gadgets and accessories, such as the "longtail T," a T-shirt sized at keeping plumbies covered; the denim rump guard, a pocket protector for workers who carry around sharp tools in their jeans pockets; as well as nostalgic items



American Girl dolls, books, clothing and accessories are the focal point of the Middleton company's call center, providing employees with easy access to the merchandise in case customers have questions as they order.

MARKET ROUNDUP

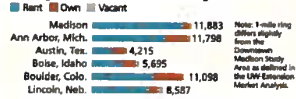


ECONOMIC SNAPSHOT

Comparing downtowns: residents

According to the UW-Extension's market analysis, Downtown Madison leads its five "comparison city" downtowns in number of housing units. Most of Downtown Madison's units are rentals, reflecting its large student population. However, condo dwellers have increased and are creating demand for neighborhood-serving businesses.

Housing units in 1-mile downtown ring



The full study can be viewed at: <http://www.uw.edu/extension/downtown/Madison/MadisonDowntown.htm>

Part 2 of this month's series comparing Madison's downtown business district is available at: <http://www.uw.edu/extension/downtown/Madison/MadisonDowntown.htm>

QUESTIONS: Contact Matt Kuehn or Bill Ryan, Center for Community & Economic Development, University of Wisconsin-Extension at: cmkuehn@uwex.edu

Economic Snapshot is a weekly feature provided by the **Extension**



Margie and Dan Hamilton opened the first Wild Birds Unlimited store in Wisconsin in 1986. The couple sold their Madison store earlier this year to focus more on their two other companies, Vortex Optics and Eagle Optics in Middleton.

Keeping the outdoors in their sights

By BARRY ADAMS
badams@wiscnsj.com
608-252-6148

EXECUTIVE Q&A

DAN and
MARGIE
HAMILTON

MIDDLETON — It has been more than 20 years since a dentist and nurse pulled up stakes in Indiana and moved to Madison to open a bird store.

The change in states and careers has paid off well for Dan and Margie Hamilton.

The couple opened one of the first Wild Birds Unlimited stores in the 'country on Odessa Road in 1986 and also started Eagle Optics, which sells various brands of binoculars and optic products, primarily for bird watchers. The company started out as mail-order retailer before going to the Internet and, in 1987, moving to an industrial park in Middleton. One of its biggest customers is Wild Birds Unlimited, which has more than 300 stores in the United States and Canada.

In 2000, the Hamiltons started designing and selling their own optics under the Vortex brand. Last month, one of their binoculars — the Vortex Viper 10x42 mm — was named the Gear of the Year in optics by Field & Stream magazine.

"It really has helped get our brand recognition out there. It's really been good for the name. It gets new dealers and helps our dealers sell more product," Dan Hamilton said. "We're going to try and take advantage of that award."

The couple sold their Wild Birds Unlimited store in March so they could focus more on Vortex and Eagle optics.

Q: How did you make the move from dentistry to owning a retail store devoted to wild birds and then to designing optical?

Please see HAMILTONS, Page B2

American toys having their day in the sun

By RACHEL KONRAD
Associated Press

Deborah Ebenoff thought she had traded her frantic Silicon Valley career for a laid-back life when she took over the low-tech toy company her parents founded in the late 1980s.

Instead, she's expanding American toy manufacturing operations and getting a record number of orders from retailers in 11 countries. More people are buying the slingshot-like gizmo, which starts at \$4 and is made in the United States. Her company is in Hollister, Calif.

As consumers look for alternatives to Chinese-made toys following a series of recalls this year, dozens of small toy companies are struggling to meet surging demand. Some owners report online sales up as much as fivefold from last year. They're hiring extra workers, expanding ware-

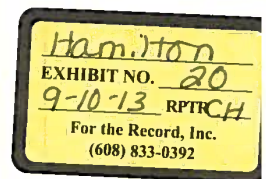
houses and adding extra assembly shifts.

"Every time there'd be a new recall this summer, we'd get a huge new order," Ebenoff said as she watched contract manufacturers stuffing neon-colored copiers, rubber bands and wooden sticks into plastic packages. "We didn't stop all summer long."

Experts say the boutique American toy boom won't last beyond the recalls, which started this summer. So far, more than 21 million toys made in China have been found to contain excessive levels of lead paint, tiny magnets that could be swallowed or other potentially serious problems.

Recalls such as F.O. Schwartz and Toys R Us downplay the recalls, saying they aren't likely to dent holiday sales or significantly change their orders. About 80 percent

Please see TOYS, Page B4



B2 • Sunday, October 14, 2007

BUSINESS

Wisconsin State Journal

CHANGES



Creney

Grochok



Koplin

Boudreau



Luchinger

Strickland



Gopen

Zimmerman

Steve Creney has joined Total Administrative Services Corp., a provider of employee benefit programs for family dentists and small-business owners at 2302 International Lane. He is vice president of business technology services.

Scott Grochok has joined Schreiner Accurate, Whitehouse, a manufacturer and supplier of feeders and meters. He is project manager of operations.

Randy Koplin has joined Design Concepts, a product development firm at 5301 Burtonwood Drive, as a mechanical engineer and project manager. Cory Boudreau has joined as a senior industrial designer and project manager.

BOARD APPOINTMENTS

Dan Luchinger, managing adviser of the Covenant Group, Middleton, has been named to the advisory board of the Salvation Army of Dane County.

David Criss, managing partner at Michael Best & Friedrich and chairman of the firm's agribusiness, food processing and distribution practice group, has been selected to serve a four-year term on the UW-Madison College of Agricultural and Life Sciences Board of Visitors.

Richard Beach, president of Royal Bank in Gays Mills, was elected chairman of the Community Bankers of Wisconsin. Stephen Eager of Union Bank & Trust Co. in Evansville was named chairman-elect.

Darwin Kleissman, of Keller Williams Realty, was named vice president of the Wisconsin Realtors Association's board of directors.

Burt A. Straka of TRICOR, an insurance company in Lancaster, was elected to a three-year term and named treasurer of the Professional Insurance Agents of Wisconsin's board of directors.

Denise R. Tupper of Don-Rick Insurance in Portage was elected to a three-year term on the board.

AWARDS & HONORS

Carol M. Gopen, co-founder of the Law Center for Children and Families, a law firm at 450 S. Yalworth Ave., has been named a 2007 Angel in Adoption, a national award from the Congressional Coalition on Adoption Institute.

Susanne Zimmerman, director of operations for Harbor House Assisted Living, Middleton, has been named Administrator of the Year by the Wisconsin Representatives of Activity Professionals.

Karl Orth, president and board member of Southport Bank, was named the 2007 Community Banker of the Year by the Community Bankers of Wisconsin, a trade association based in Madison.

Larry Mehl, of the maintenance department at Karmata Center, a nursing and rehabilitation center at 4502 Milwaukee St., received the center's Shining Star Award.

ANNOUNCEMENTS

Mary Strickland, vice president of wealth management at Smith Barney, 13 E. Main St., has received the Certified Financial Planner certification.

Compiled by Britany Schoop. Please submit changes to us at news@wiscnsj.com.

Season

Continued from Page B1

such as paid handkerchiefs and wooden train whistles. A segment about Duluth Trading on the syndicated TV show "House Smarts," scheduled to run in November, could be an even bigger boost to sales, Kiewit said.

The bare minimum

From a nationwide perspective, Duluth Trading's big hiring jump is well outside the norm.

Challenger, Gray & Christmas says holiday hiring could dip to its lowest level since 2001. The Chicago outplacement consultant firm says a sudden surge in job cuts resulting from the housing slump, massive, expensive toy recalls, and increased concerns about a recession are expected to hold down holiday shopping.

The firm says employers are likely to add "the bare minimum" to their payroll.

Mangrove's quarterly employment survey also reflects a cautious approach, with only 27 percent of employers saying they plan to add to their work-

force between October and December.

The National Retail Federation is predicting a 4 percent rise in sales for the holiday season, compared to last year's—the smallest increase since 2002.

"Retailers are in for a somewhat challenging holiday season as consumers are faced with numerous economic obstacles," the federation's chief economist, Howard Smith, said, in a news release. "With the weak housing market and current credit crunch, consumers will be forced to be more prudent with their holiday spending."

At least two major store chains said, though, they'll be hiring about as many seasonal workers in the Madison area as they did last year. Target is adding 60 to 70 employees per store, said spokeswoman Ana Williams, in Milwaukee. And Shopko is in the midst of hiring 85 holiday workers, to be spread among three stores in Madison and one in Monroe, workforce development director Cindy Sabotay said from company headquarters in Green Bay.

At American Girl

Even as Duluth Trading is looking to build holiday hiring,

American Girl in Middleton is adding fewer people.

About 1,850 seasonal jobs are being filled at the doll and accessories company's three Wisconsin locations, in Middleton, DeForest and Wilmett.

That's a decrease of 310 from last year, spokeswoman Julie Parks said. But the economy is not to blame.

"E-commerce continues to grow for American Girl, so there's less of a need for telephone order-takers" than we have had in past years," Parks said. She said 62 percent of the orders for American Girl products so far this year have come in over the Internet, up from 54 percent of the orders last year.

At the same time, seasonal employees want to work longer hours than they have in the past, she said, and there's also less turnover among seasonal employees. A couple of years ago, the turnover rate among holiday workers was 28 percent, now, it's down to about 20 percent, Parks said.

From so, American Girl launches its annual search for holiday helpers as early as June. Some start working in August or September, but most of the shifts run from October through December, Parks said.

"It's a tighter labor market than

in past years," she said, especially for the Middleton location, which has 400 seasonal employees. "A lot of new businesses are opening, so it's increased competition for part-time help."

Seasonal shifts pay \$9.70 to \$11.85 an hour in the American Girl warehouse; order processors and customer service people are paid \$11 to \$12.20 an hour, Parks said. There's also a 30 percent employee discount.

Parks said a new set of historic doll characters and new sales outlets are expected to boost revenue this holiday season for American Girl, a division of Mattel. Dolls Julie Albright and her best friend, by Ling, set in the 1870s, were recently introduced. Meanwhile, the company debuted its first American Girl boutique and bistro in Atlanta in August; the next one is scheduled to open in Dallas on Nov. 3.

A gift card

Lands' End won't say how many seasonal employees it's hiring, but the Dodgeville apparel and accessories retailer is bringing in about as many as last year for its locations in Dodgeville, Dodgeville and Stevens Point, and it is a "sizeable number," spokeswoman Michele Casper said. Their duties range

from taking orders to monogramming to gift wrapping, and training can run 40 to 60 hours or more.

About 40 percent come back year after year. "Some have been with us 15 to 20 holiday seasons," Casper said.

Lands' End perks may be one reason. The company offers discounts on merchandise from Lands' End and sister company, Sears — but won't disclose how big of a price reduction. It also provides health, dental, life and short-term disability insurance coverage for seasonal workers. Returning hires get a \$50 gift card, Casper said.

Lands' End now has 200 "homes within a store" at Sears locations and that's expected to boost sales, Casper said. New this season is an outerwear assortment with varying ranges of warmth, she said.

But if you think the Christmas merchandise has been hitting the stores and online retailers earlier than usual, it's just your imagination, said Tiffany Bernhardt, marketing director for West Towne Mall.

With last weekend's temperatures in the 80s seeming more like a prelude to summer than winter, "the warm weather what really throws people," she said.

Hamiltons

Continued from Page B1

Dan Derzitsky is very stressful and I was feeling the stress and I kept thinking I wanted to do something different. One of the things I enjoyed doing is a stress reliever was going out hiking and watching birds and enjoying nature. A Wild Birds Unlimited store had opened up not too far from where we lived and I kept thinking that maybe we should do that. It was hard to leave because it was a lot of years invested in (density) training and education. I just didn't want to live under that stress the rest of my life.

Margie Besides that, he has that entrepreneurial spirit. Dan's always thinking about what would people really want. And as people would come into the store, they would ask for various things and the wheels were turning inside his head.

Q: Vortex is one of the few family-owned optic companies in the world. Your two sons and a daughter-in-law hold key positions in the company. What does it mean to have your family involved in the business?

Dan: It's potentially scary. You want to make sure we all get along. It's nice, actually. (Sigmund Hamilton) designed that Vortex, so he is our computer, graphic arts and engineer person. He's designed most of our products in terms of the specifications and the look and the feel of them. (Joe Hamilton) is our sales manager for Vortex, so he's kind of fit into key roles for us and they do a good job for us.

Margie The whole place is like a big family. A lot of our employees have been with us for a very long time.

Q: Running a business is difficult but having the family involved can present challenges. How do you avoid business spilling over into Sunday dinner?

Margie Our sons seem to have very different interests. We do spend a lot of time at dinner discussing business. In fact, we have to kind of cut that off at times because otherwise you could live it and breathe it every moment of the day. I think because everybody kind of has their own little division of labor, so to speak, I think that really helps in cutting down on the conflict. It will be interesting if David (who is in the Air Force) comes back because Joe and Dan are very similar in the way they look at things.

Q: How have your optics evolved?

Dan When we started Vortex, it was originally for the outdoor market for backpackers and hunters and camping and things like that, so we had these small, really rough waterproof binoculars.

And Eagle Optics has really been marketed towards bird watchers. So we had a strong push toward the bird-watching market and we didn't have anything for the hunting market. A couple of my boys are really interested in hunting, and there's some other (employees) who are hunters. So we took that Vortex brand, which really was just a few binoculars, and we decided to develop products that hunters would like.

Q: You're developing a new line of rifle scopes for hunting, target and tactical uses. Because of the competition in that market, was it a hard decision to begin designing your own scopes?

Dan: We knew it was going to be challenging, but we really felt like we had a lot to offer our dealers and customers. We know a lot

about optics and we've designed some unique products and features. We're a family-owned company, so if anybody has any problems with anything, the back stops right here in Middleton, Wisconsin. We do all of our own repairs. We put an unconditional warranty on all of our products and we're right here in the heartland of hunting. We know that it's not easy to gain a foothold in that market, but we were committed to the long haul.

Q: What makes your company stand out?

Dan: There's three important things we try to do. First, we try to make sure the customer gets a good or better value than anything on the market, and we know the market really well. We also want to make sure the dealer makes money selling our product. That's why we get a meaningful profit margin. And then, we want to make sure the customer and the dealer get the service and support. We don't allow any discounting on our product. We don't sell to discount retailers. We don't think our products need to

be discounted. It creates a sense of value and worth to the brand.

Q: Your binoculars and other optics can cost several hundred dollars. How strong is the market for a pair of \$400 binoculars, like the Vortex Viper 10x42 mm?

Dan: Years ago, it used to be that there wasn't a lot of difference between the price of a low-end and high-end pair of binoculars. So people would either buy low or they would go and buy a \$1,000 pair. But now those same products that were \$1,000 are now \$2,000, so there's a big area in the middle and that's where the Vortex brand fits. It's a step up for people. They see it's something good to invest in, it's right in the middle and that's where we want it for. We could see that gap and it's been very well received.

Margie People want features, they want value, they want reliability, but they're not necessarily willing to mortgage their house to get it. That's where our company excels because we do have very good products and very good warranties and (our products are) attainable.

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Paula Jones, owner of The Gown House, Madison's new distinctive home boutique.

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BVD Field Tests



Midpriced Binoculars Review

A flock of Iowa bird watchers puts some binoculars to the test

If you are a bird watcher with between \$300 and \$800 to spend on a new pair of binoculars, what can you get? This is the question for a birder ready for something beyond entry-level binoculars or discount-store offerings who can't afford or doesn't choose to spend close to \$2,000 for top-echelon binoculars. To answer this question we evaluated 56 midpriced binoculars from 18 different manufacturers. All have suggested retail prices of at least \$300, and all can be found (at the time of this writing) at street prices less than \$800.

How We Evaluated Them

We numbered and tagged the binoculars and set them up on tables that overlooked an outdoor scene. There were bird feeders, meadow, pond, trees, butterflies, and birds—a great variety of natural subjects to observe.

For more controlled lab-type comparisons, we pinned to a wall an Edmunds Optics Resolution Power

test chart that incorporates multiple examples of the standard USAF 1951 Resolution Test Pattern in red, blue, yellow, and black. The chart is large enough to let you see copies of the same test pattern at the center and at the edges of the field of view.

We constructed a beanbag rest, 24 feet in front of the chart so that any two binoculars could be set up side by side and compared under identical distance and lighting conditions. A beanbag rest was mounted on a heavy Gitzo tripod that stood on a stone floor. The tripod's crank let us raise and lower the beanbag rest to match each tester's height. After aiming and focusing, we could easily move from one pair of binoculars to another and compare two perfectly still, steady images.

A team of 13 other Iowa birders was invited to rate the binoculars for optical quality, fit, and feel, plus other ergonomic details such as the focus knob, eyecups, and diopter adjustment mechanism. We deliberately omitted

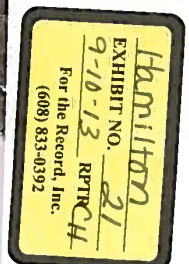
MICHAEL AND DIANE PORTER

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DIANE PORTER

Our field testers are all veteran Iowa birders.



price information on the form the testers filled out while evaluating the binoculars. Our intent was to rank the binoculars according to their quality without regard to their cost. We also researched warranties, an important issue when investing in binoculars. Here are the elements tested for and included on the chart.

Optical Quality

The binoculars were compared for resolution, brightness, contrast, color fidelity, detail in shadowed areas, and freedom from chromatic aberration. Each tester rated the binoculars' optical quality on a scale of 5 (best score among the midpriced binoculars) to 1 (worst). Top-end reference binoculars were also available for comparison—Zeiss FL 8x42 and 10x42, a Swarovski EL 8.5x42, and a Leica Ultravid 8x42.

A word of caution on interpreting the optical quality numbers. The combined scores are rated to the tenth of a point, but the spread is tight, with most of the binoculars scoring within one point of each other. It's wise to not

regard the scores as absolutes. Every score on the chart is composed of the ratings of multiple testers, each of whom doubtless brought his or her own preferences and particularities to the test. This doesn't mean subjective comparisons are meaningless. But there is a tendency, when seeing something reduced to a number such as 4.3, to put undue credence in its specificity.

Among the standouts for optical quality were the Leica Ultravid Compacts, amazingly sharp, clear binoculars (see review of Leica Ultravid Compacts). The Vortex Razor 8x42 shared the highest optical score with them.

Ergonomics (Fit and Feel)

Fit and feel are necessarily an individual matter, made up of the size, weight, shape, and balance of the binoculars, the texture of the armor-ing, and a host of details. People respond favorably or unfavorably to indentations for thumbs; to the size, location, and style of the lugs to which the strap attaches; and to the general tight-



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SW02815

ness or looseness of knobs and hinges. Most people seem to like tethered lens covers, but some don't like lens covers dangling down from the binoculars. One of our testers, whose hands are particularly large, scorned the compacts, preferring the way that full-sized binoculars fit his grip. Another tester said that high-quality binoculars that worked with her glasses and would fit in her small purse were "to die for."

DIANE PORTER (2)

A great advance in binocular ergonomics was the use of rubber or synthetic materials to cover and protect the surface. Arming quiet bumps, secures one's grip, and makes binoculars much more hand friendly. Although virtually all the binoculars in our study incorporate pleasant arming, the Swift 8.5x44 Audubon (Model 828) got an especially high



All makes and models were tested side by side under identical conditions.

score for fit and feel. It's pleasant to the touch, it's nonslip, and it accomplishes its tactile effect without any ridges. Quite elegant—just a subtle texture does the job.

Diopter Adjustment

The diopter adjustment mechanism is a focus knob that lets you focus one side of the binoculars separately from the other, in order to set the binoculars to accommodate differences in the focusing of your two eyes. When you acquire new binoculars, you immediately set the diopter adjustment for your own eyes. If the setting holds, and no one changes it, you can forget about it. If you share your binoculars with others, each user needs to set the diopter personally, each time the binoculars change hands. The correct diopter adjustment is essential to a focused image.

Even though a binder with non-shared use of a pair of binoculars might need to use the diopter adjustment only once, or only rarely, it's important to be able to set it easily. You should be able to turn the diopter knob without straining your fingers or scrunching up your eye with the effort. Ideally, a diopter adjustment should look so that it can't be accidentally moved from its setting. It should have markings or "stops," called detents, to facilitate putting it back to its normal setting if it does get changed. And the setting should be easy to read so that you can confirm at a glance that it's still adjusted correctly.

We found considerable range in diopter adjustment style and quality among our midpriced binoculars. We found lockable diopter adjustments superior to diopters that hold their setting merely by friction, but only 13 of 56 of the midpriced binoculars in our study offer the locking feature. Those binoculars with lockable diopter adjustments use a variety of ingenious devices.

Our favorite was the Leica Ultravid Compact. The regular focus knob

is also the diopter adjustment knob. When you push a button under the bridge, the focus knob changes function and focuses only the right eyepiece, allowing you to set the diopter. When you release the button, the focus knob again focuses both eyepieces. At any time you can read the setting on the focus knob, reassuring you that it is correct or alerting you that it needs adjusting. Other notable examples of locking diopter adjustment mechanisms are the Bushnell Elite2 and Bushnell Infinity, Leica Ultravid, Leopold Cascade, Minox HG, Pentax DCF ED and Pentax DCF SP, Swift Audubon, Vortex Razor, and Vortex Viper.

Focus Knob

Ergonomic quality in binoculars is conveyed by the focus knob. If it turns smoothly, with even resistance throughout its range, you feel confident in the engineering quality of the instrument. A focus knob with slack doesn't feel right, and it doesn't give you immediate, accurate focusing. Our testers rated each pair of binocular on the perceived quality of its focus knob. The results are displayed in the chart.

Most bird watchers also like a focus wheel that goes quickly from near focus to infinity. If you have to turn and turn the wheel, the flying merlin will be long gone before you roll the knob away from the sparrow in the bush. On the other hand, too fast a focus makes binoculars hard to focus precisely.

A manufacturer that has admirably addressed the challenge of making the focus knob both precise and fast is Minox. The new Minox HG series binoculars (see review) go from close-up to infinity in less than one full turn

of the focus wheel. Up-close focusing is fast, and distance focusing is precise. Going a step further, Minox put a distance scale on the focus knob, turning it into a range finder. We love this feature because we often would like to make a note of the viewing distance from a bird, and the Minox GH focus wheel lets us read the distance at a glance.



Dial-up eye cups offer customized eye-relief for birders who wear glasses.

Eyecups

Other details to note among the midpriced binoculars are the eyecup design and quality. Our team (dominated by individuals who wear glasses) strongly preferred eyecups that twist or pull up and down, rather than the older-style rubber folding eyecups. Nearly all of the binoculars in our study did employ twist-ups or pull-ups. However, if you do not wear glasses, you might be perfectly happy with folding eyecups. The chart indicates the eyecup style for each pair of binoculars.

Our team's favorite eyecups were twist-ups with multiple detents, or clicks, that allow a birder quickly to

dial the degree of eyecup extension required. These are marked TC (twist/click) on the chart.

The winner for best eyecups was the Vortex Razor, which has both detents and markings, and an extension range better than that of any other binoculars we tested. Although most twist eyecups have only three detents, the Razor has 15, allowing you to fine tune a repeatable setting. The only improvement we would suggest would be to make them a bit stiffer to turn so that they could hold their setting better.

Eye Relief

For all binoculars there is an optimal distance between your eye and the eyepiece. That distance is called eye relief. If your eye is too close to or too far from the eyepiece, you can't see the whole picture. Part of it is blacked out. The challenge for eyeglass wearers is to choose binoculars with eye relief long enough to accommodate the glasses. Otherwise, your glasses don't allow your eyes to get close enough to the eyepiece, and you can't see the whole picture.

A few years ago it was difficult to find a binoculars with eye relief sufficient for eyeglass wearers. But optics have come a long way on that score. Most manufacturers seem to have realized that people with corrected vision make up a significant portion of the binoculars market. Most of the pairs we looked at work well with eyeglasses.

For the eye relief column on the chart, we relied on the numbers published by the manufacturers. If you wear glasses, a good starting place is to consider binoculars with a listed eye relief of at least 16mm. However, methods of measuring eye relief vary

from manufacturer to manufacturer, so you can't rely entirely on the published figures. Oddly, Leica seems to grade their binoculars' eye relief especially conservatively. We found that the Leica Ultravid Compacts had excellent eye relief for glasses wearers, despite published eye relief of only 15mm.

Our team especially appreciated the eyecups on the Pentax DCF SP, with its three-stage indents. The eye relief of the 8x43 model, published as 22mm, is generous enough even for a person whose glasses are large and ride far from the eye. But the three-stage indents allow a person with closer-fitting glasses to dial an appropriate degree of eye relief.

Other binoculars with particularly long eye relief include the Celestron Regal LX 8x42, the Alpen models 493 and 496, and the Vortex Viper 8x42. Binoculars such as these, with eye relief of 20mm or more, are good candidates for anyone who has trouble getting the whole picture while wearing glasses. The safest practice for anyone looking for new binoculars, of course, especially if you wear glasses, is to try 'em before you buy 'em.

Close Focus

Have you ever found yourself backing up so that you could focus on a butterfly or on the birds at the feeder right outside your window? Sometimes you want to magnify what is close, so that you can appreciate tiny details, such as the individual feathers that make up the gorget of a hummingbird. For that you need binoculars that will focus up close. The binoculars in our study have a close focus ranging from 4 feet to 18 feet.

The closest-focusing binocular we looked at was the Minox BV 8x42,

with a published close focus of 3.9 feet. Another binocular with a remarkably close focus was the Alpen model 493 8x42, which focuses down to 4 feet. Unlike some close-focusing binoculars, the Alpen 493 has a good overlap between the images presented to the two eyes. That makes for comfortable viewing even up close, and it avoids the squeezed-eyes feeling that comes with some other close-focusing binoculars.

Field of View

Field of view and eye relief are rivals. When a binocular designer increases one, the other one suffers. Only by adding expensive elements to the eyepieces is it possible to maximize both at once. That is probably why we found only a few midpriced binoculars that had both outstanding eye field of view and eye relief. However, for a person who does not wear glasses, eye relief doesn't matter, and binoculars with a wide field of view can be enjoyed without penalty.

We found several binoculars with exceptionally wide fields of view and moderate eye relief that might work well for some, though probably not all, glasses wearers. Among these are three 8x32s—the Kowa BD32-8x, the Minox BL, and the Carson Optical SM-832HD, each with a more than 420 feet field of view at 1,000 yards.

Among the 8x42s, the Vortex Razor turned in the widest field of view by far—410 feet at 1,000 yards, yet it provides 18mm of eye relief, adequate for virtually any glasses wearer. The Leopold Kaimal 6x32 also achieves both a wide field of view (425 feet) and long eye relief (19.2mm).

Three 10x42s in our study offered fields of view of more than 340 feet at

1,000 yards, and these all have eye relief of at least 16mm, which is adequate for most glasses wearers. These were the Kowa BD42-10x High Performance, the Minox BL, and the Bushnell Elite2.

The Main Chart

The main chart is sorted by overall quality, with the best at the top. To calculate the overall quality index, we weighted optical quality as 50 percent of the score, with the other 50 percent comprised in equal parts of fit and feel, close focus, focus knob quality, diopter adjustment quality, and eyecup quality.

Not included in the overall quality calculation: price, warranty, prism style, field of view, waterproofing, and size and weight except as they affected fit-and-feel scores. All of these are important aspects of binoculars, but how much to weight them in making a purchase decision will vary from person to person.

The Warranties Chart

It's sometimes difficult to discover exactly what a manufacturer is promising by way of warranty. In some cases we received conflicting information from company spokespeople, or what we were told differed from what we read on the manufacturer's website. The information is reported as accurately as possible, but we recognize that another questioner on another day or with another respondent might possibly produce a different answer.

"Limited warranty" usually means that only manufacturers' defects are covered. "Lifetime warranty," on the other hand, can mean many things. It can mean there is no time limit. It may

(continued on page 59)

Midpriced Binoculars Comparison

Manufacturer (Brand)	Model	Magnification	Objective Lens	Street Price	Weight (oz.)	Prism Style	Field of View	Eye Relief (mm)	Close Focus (ft.)	Length (in.)	Width (in.)	Waterproof	Coatings	Eyecup Style	Diopter Location	Diopter Locks	Diopter Indicator	Fit & Feel	Focus Knob	Diopter Quality	Eyecup Quality	Optical Quality	Overall Quality
Leica	Ultravid	8	20	\$619	8.5	roof	341	160	7.2	3.6	4.4	yes	FMC	P	RK	✓	M	48	48	49	49	48	48
Minox	Ultravid	10	25	\$679	9.4	roof	273	150	7.5	4.4	5.0	yes	FMC	P	RK	✓	M	49	48	49	49	48	47
Minox	HG 82155	8.5	43	\$789	22.9	roof	221	180	10.5	5.7	5.0	yes	FMC	P	RK	✓	M	45	47	48	49	45	46
Vortex	Razor	8	39	\$700	29.4	roof	410	180	8.2	6.5	5.5	yes	FMC	TC	RK	✓	DM	49	29	49	49	48	46
Minox	HG 82163	8	39	\$679	21.3	roof	385	190	6.5	5.0	4.9	yes	FMC	TC	E	✓	M	45	38	49	49	45	45
Pentax	Pentax DCF ED	8	42	\$799	23.3	roof	385	170	6.5	5.0	5.0	yes	FMC	TC	E	✓	M	39	47	44	45	45	45
Vortex	Viper	8	42	\$400	23.0	roof	347	200	5.1	5.8	5.3	yes	FMC	TC	E	✓	C	45	48	40	41	45	45
Leupold	Kennar	8	42	\$280	18.2	roof	425	192	4.9	4.1	4.7	yes	FMC	TC	E	✓	C	44	48	39	41	45	44
Eagle Optics	Ranger SRT	8	42	\$300	21.8	roof	341	195	5.2	5.8	5.1	yes	FMC	TC	E	✓	C	45	48	40	41	44	44
Zeiss	Victory 8x20 Compact	8	20	\$450	7.9	roof	351	140	8.2	4.0	3.8	yes	FMC	P	CK	✓	M	44	39	39	41	46	43
Nikon	Elite 2	10	42	\$320	28.0	roof	341	155	8.2	5.6	5.0	yes	FMC	TC	E	✓	DM	44	47	44	44	42	43
Bushnell	Marathon	8	36	\$250	19.8	roof	367	170	8.2	4.9	5.1	yes	FMC	TC	E	✓	M	44	47	39	41	42	42
Nikon	Elite 2	8	36	\$250	19.8	roof	367	170	8.2	4.9	5.1	yes	FMC	TC	E	✓	M	44	47	39	41	42	42
Zeiss	Victory 10x25 Compact	10	25	\$490	8.6	roof	385	140	13.1	4.7	3.8	yes	FMC	P	CK	✓	M	39	38	39	40	47	42
Zeiss	Compact	10	40	\$200	29.0	roof	315	130	9.8	6.0	5.0	yes	FMC	TC	E	✓	C	40	38	39	40	45	42
Pentax	Compact	10	40	\$200	29.0	roof	315	130	9.8	6.0	5.0	yes	FMC	TC	E	✓	C	40	38	39	40	45	42
Pentax	Pentax DCF-SP	8	43	\$549	25.9	roof	380	160	9.8	6.0	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Minox	BL 82149	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
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Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
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Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
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Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0	yes	FMC	TC	E	✓	M	41	40	39	40	43	41
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Pentax	Pentax DCF-SP	8	42	\$549	18.5	roof	315	170	6.6	5.7	5.0												

Warranties

Manufacturer	Models	Name of Warranty	Time Limit	Defects	Alignment	Accident	Transferable	Fee
Apex	All in survey	Limited Lifetime Warranty	No limit	yes	yes	maybe	no	\$15
Bushnell	Edge, Infinity	Limited Lifetime Warranty	No limit	yes	no	no	no	\$10
Canon	Image Stabilizer	Limited Lifetime Warranty	3 years	yes	maybe	no	no	\$0
Carlson	XM-8234D	No-fault	No limit	yes	yes	yes	yes	\$0
Celestron	Regal LX, Noble	No-fault	No limit	yes	yes	yes	yes	\$25
Eagle Optics	Range SRT	Premium Protection	No limit	yes	yes	yes	yes	\$0
Fujinon	HB	Lifetime Warranty	Lifetime of original owner	yes	no	no	no	\$0
Kowa	All in survey	Lifetime of the product	10 yrs after manufacturing ends	yes	no	no	yes	\$0
Leica	All in survey	Passport Protection Plan	Lifetime of original owner	yes	yes	yes	no	\$25
Lapoid	All in survey	Green Ring Limited Lifetime Warranty	Lifetime of original owner	yes	yes	no	no	\$0
Minox	All in survey	Lifetime Warranty	Lifetime of original owner	yes	maybe	maybe	maybe	\$0
Nikon	Monarch	Nikon No-fault Warranty	25 years	yes	yes	yes	yes	\$10 + \$84
Pentax	All in survey	No-worn Lifetime	Lifetime of original owner	yes	yes	yes	no	\$19.55
Shaner	Shaner Martin		10 year warranty	yes	no	no	no	\$0
Shaner	Shaner Wildlife Pro		30 year warranty	yes	no	no	no	\$0
Swarovski	All in survey	Limited Lifetime Warranty	Life of & as long as owned	yes	no	no	yes	\$0
Swift	Audubon, Eagle	Swift 25-year Warranty	25 years	yes	no	no	maybe	?
Vortex	All in survey	Vortex VIP Warranty	No limit	yes	yes	yes	yes	\$0
Zeiss	All in survey	Limited Lifetime Transferable Warranty	As long as Zeiss exists	yes	yes	no	yes	\$0

LEGEND

Defects: Warranted against manufacturer's defects of materials or workmanship
Alignment: Will manufacturer repair alignment problems that arise through use of binoculars?
Accident: Will manufacturer repair damage caused by accidents, even if the fault of owner?
Transferable: Does warranty stay in effect when binoculars are sold or given to subsequent owner?
Fee: Amount that must be sent in with binoculars for warranty service
Maybe: Manufacturer indicates that decision is made on case-by-case basis

mean the lifetime of the original owner, but only so long as that person owns the binoculars. To some manufacturers, "lifetime warranty" is the lifetime of the product, which can be as long as the product is being manufactured or can mean for a certain number of years after production ceases.

Some warranties are written on paper and come with the product. Some are described on the manufacturers' websites. Other warranties might be best described as an oral tradition. That is, the stated warranty is cautious and not overly generous, but the manufacturers say they actually do better by their customers than their warranties would indicate. For example, many warranties state that they cover only manufacturers' defects of materials or workmanship. However, spokespersons for many companies insist that their service departments usually or often provide repairs at no charge, even when the damage results from a mishap that was not caused by the manufacturer. Or they claim that they will provide service to a secondary owner even though the warranty is officially not

transferable. (On the chart, "maybe" means that the manufacturer decides on a case-by-case basis whether to charge for the service and how much.)

Some will fix the alignment if needed. A few manufacturers actually warrant their binoculars against all accidental mishaps except loss and theft. Some let the warranty reside with the binoculars, so that the current owner is covered, regardless of whether the binoculars were purchased new or used.

The warranties chart can give you an idea of what kind of warranty to expect for a prospective pair of binoculars. However, if yours are damaged, it's worth calling the company and asking what they can do for you even if the warranty doesn't imply that the needed service is covered. You might be pleasantly surprised.

Binoculars of Note

There is not enough space to give every binocular model its own review. Many of those we surveyed deserve to be noticed. But we did single out a few that offer something special.

Canon Image Stabilizer 10x30 and 12x36

Canon brings to binoculars the same shake-canceling technology that revolutionized telephoto camera lenses. Push a button near the central focus knob, and your hand-shake goes away. The image floats instead of jumps, and details that were blurred by motion come back into view. Pure magic.

They have a smooth-turning, well-placed focus knob, surprisingly good eye relief, and excellent optics. They require two AA batteries for their stabilization to function, but you can still see through them even with dead batteries—just not stabilized.



Canon Image Stabilizer 10x30 and 12x36

Neither of the two midpriced Canons we tested was waterproof, but a higher-priced 10x42 model is. Weighing in at 31.4 ounces (without batteries), the 12x36 Canon IS is among the heaviest of the binoculars we studied.

Their odd shape makes them stand out from rest of the roof-prism crowd, and this fact may have skewed their overall quality score downward more than they deserved. You set the interpupillary distance by rotating the offset eyepieces. The eyecups are the old-fashioned, fold-down rubber design, which also lost them points. And we're not sure how their high-tech innards would hold up to the heavy use birders would give them, or how well they would maintain their alignment after a fall. However the Canon IS binoculars can do something that no other binoculars can—let a person hand-hold a 12-power pair of binoculars. They are the Shrek of binoculars—big, green, and funny looking but with remarkable and quite useful powers.

Eagle Optics Ranger SRT 8x42

We rated these binoculars a best buy at the \$299.95 street price. They have excellent eye relief (19.5mm) for glasses wearers, very close focus (5.2 feet), and twist-up eyecups with good detents. We found the focus knob flawlessly smooth and free from slack. The binoculars feel good in the hand.

Optical quality is quite good, well toward the top of the pack at a 4.4. Considering that the highest optical quality rating was a 4.8, that's a pretty good score. The Ranger scored 9th in overall ratings, a great performance considering the price. Anyone on a budget would do well to take a close look at an Eagle Optics Ranger. It comes in a great range of magnifications and sizes.



Leica Ultravid Compacts

These tiny binoculars were great favorites among our testers, who extolled the Leica Ultravid Compacts' bright, supremely sharp images. They actually have outstanding eye relief, despite published eye relief of only 16mm. They let even a glasses wearer see an amazingly full, rich image, rivaling a top-end full-sized binocular.

Thumb and forefinger naturally fall on the silky-smooth focus knob, making the glasses easy to focus with great precision. The locking diopter adjustment is easy to see and precise to set, one of the most elegant designs of any binoculars in the study.

The Ultravid Compacts have two hinges, allowing them to fold up extremely small. The 8x20 fits neatly in a shirt pocket. Each size comes in a rubber-armored model and a leather-covered version.



for which there is no difference in price. The leather version is slightly narrower, because the leather is thinner than the rubber. The optics are identical in both cases. It's available in 8x20 and 10x25. (Most of our reviewers preferred the shorter length of the 8x20.)

Leupold Katmai

The Leupold Katmai 6x32 is a little gem. It has a wonderful build quality, and it fits a large range of hand sizes. Everybody loved it. It's a cargo-pocket or purse-sized pair of binoculars, quite compact for its 32mm objectives. It has that big-picture effect, combining both long eye relief (18.2mm) and a wide (425 feet) field of view. It received very high ratings (4.5) for optical quality.

If you push the twist-click eyecups in slightly when extended, they lock to preserve the setting—a nice touch. The Katmai 6x32 focuses as close as 4.9 feet, and you can push the barrels close enough together to make the images overlap even at that distance.

It got an overall score of 4.4, putting it alongside much more expensive binoculars. The street price is a modest \$289.99, making it clearly a best buy candidate. The Leupold Katmai is also available in 8x32 and 10x32 versions.



Minox HG



Minox binoculars used to be made by Leica—they were Leica's second line, at lower prices than the top products. But in 2001 Minox became an independent company and started producing top-quality binoculars that now compete with Leica for a share of the high-end market. The new Minox HG series includes outstanding binoculars, a few of which fit (barely) into our mid-priced array. We looked at the Minox HG 8x33 and the 8.5x43, each of which can be found for less than \$800. Other sizes are available at somewhat higher prices.

In our optical quality tests, the Minox HGs were unexcelled. They also have some of the nicest-feeling engineering and smoothest-turning focus knobs we've found in any make. The addition of a distance scale on the focus knob (made possible because the wheel turns less than one full rotation in going from closest to most distant) gives the HG binocular the unique function of acting as a range meter.

The central focus wheel also serves as the easy-to-turn, locking diopter adjustment wheel. The eyecups, with gentle detents, twist out with unusual smoothness and precision. Eye relief for glasses wearers is excellent, as is the optical quality. Several of our testers remarked that the HG gave a nice feeling in the hand. We judged it to be a great buy for someone looking at the upper end of the midpriced field, for quality comparable to the high-end binoculars.



**Nikon Monarch
8x36 and
10x42**

Nikon Monarch 8x36 and 10x42

The Nikon Monarch is another best-buy choice. The 10x42 rated 4.3 overall, and the 8x36 a 4.2, and yet they have a street price of only \$319.95 and \$249.95, respectively.

Optical quality rating was 4.3 on the 10x42 and 4.2 on the 8x36. These are quite good scores considering the prices. Both models have good ergonomics and seem light and well balanced. Both got an excellent score of 4.7 for focus knob quality. They have a barrel design that bulges out gently in the middle, helping them fit comfortably into the palm of the hand. The Nikon Monarch is also available in 8x42, 10x36, 10x56, 12x56, and 8.5x56.

Pentax DCF ED 8x32

These binoculars stand out for their excellent optical quality. Our testers commented admiringly about the DCF ED's locking diopter adjustment, twist-ups eyecups with indents, perfectly smooth focus knob and central hinge, and tethered, untachable objective lens covers. (In case you don't like having the lens covers dangling off the end of the binocular, you can easily remove them.)

The DCF ED works well with glasses, even if you wear aviator-type glasses that are large and ride far from your face—you don't lose the outer part of the image with these binoculars. Pentax's Extra Low Dispersion glass, which incorporates the rare-earth element lanthanum, is designed to provide extremely pure colors and sharp images. The DCF ED is available in the usual range of magnification and objective lens size. One of them, the 8x32, just makes it into the top of our \$300 to \$800 price range.



**Pentax
DCF ED
8x32**

Vortex Razor

Vortex Razor is the top model from Vortex Optics. Its body style features the hollow bridge made famous by the revered Swarovski EL binoculars. Because your fingers can wrap around one of the barrels and fit down into the hollow, it's possible to hold and focus the binocular with one hand, leaving your other hand free. The Razor enjoys numerous details that make top binoculars tops, such as its precise locking diopter adjustment. Other desirable features include twist-up eyecups with many closely spaced detents that let you instantly dial exactly the degree of eye relief you need every time.

Look through a Vortex Razor, and you're immersed in big, bright, clear image. Of all the midpriced binoculars we tested, none excelled the Vortex Razor for optical quality. This model would probably have won the top overall rating if its focus knob had been smoother. The Razor is available in 8x42, 10x42, 10x50, and 8.5x50. We looked only at the 8x42 version.



**Vortex
Razor
8x42**

Conclusion

Affordable binocular quality is improving fast. We found that we could reach almost anywhere on our midpriced test tables and get good optics and decent ergonomics. But let's cut to the chase. Is there really any reason to spend close to \$2,000 for top-of-the-line binoculars?

We did find that the top-end binoculars were brighter, sharper, and better at resolving detail in deep shadows than any of the midpriced choices tested. The higher quality was perceptible. If we had to use the same scale to rate the Zeiss Victory FL, for example, we would have to give it an optical quality score of at least 6.

But the difference is not as great as it was a few years ago. The midpriced binoculars have come a long way toward catching up with the royals at the top of binoculars society. And we did find some good buys in this price range, where optical quality, good ergonomics, and relatively low price all came together in one pair of binoculars. Good news for the birder on a limited budget! Overall, we were amazed at how good midpriced binoculars have become. 🦋

Michael and Diane Porter are avid bird watchers who operate the website birdwatching.com.

The New Standard™ Binocular Roundup

Vol. 34 No. 3, January/February 2012

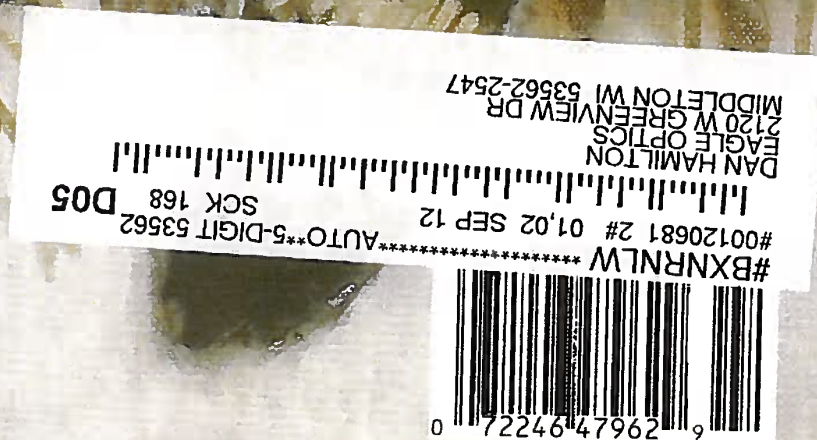
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These are just some of the rave reviews for the Eagle Optics Ranger series of Binoculars — now even BETTER with the Ranger ED.

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“The Openlander—Short-eared Owl”
by Paul Hoelscher, acrylic on canvas.
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The New Standard

8x42 midpriced binoculars



MICHAEL PORTER

Want to move up to better binoculars but can't afford the high-end optics? Need a second pair for your significant other? Or maybe you're a world-class grandparent trying to get a favorite child a life-changing

present. This review is for you.

In this article we review moderately priced binoculars in the 8x42mm class. All the binoculars are priced between \$200 and \$600 and have an 8-power (8x) eyepiece

PHOEBE THOMPSON

MICHAEL & DIANE PORTER

If you're looking for binoculars for your everyday enjoyment, take a closer look at these 8x42 optics!



and 42mm or slightly larger objective lenses.

All of the binoculars that manufacturers sent to us for this review were H-shaped, roof-prism designs. No one sent a Porro prism design. This reflects the clear trend today in the birding market for the more compact roof prisms.

There were two construction styles, solid bridge and open bridge. The solid-bridge, classic design joins the barrels with one large hinge. The open-bridge design uses two smaller hinges, one close to the focus knob and one near the objective lenses, with a gap in between that allows your fingers to wrap around the barrels. This makes it easier to hold the binoculars with one hand. How well the open bridge works for you depends on the size of your hand relative to the binocular barrels. Only by trying the two types can you be sure which one suits you best.

Why Is 8x So Popular?

Eight-x magnification is a popular choice, and many birders prefer it to 10x. Here's why.

Better with glasses. When wearing eyeglasses, your eyes are positioned farther away from the eyepieces. How far back your eyes can be and still see the whole picture is called *eye relief*. It's much easier to find 8x binoculars with enough eye relief to work with your glasses than it is to find 10x.

Better image stability. More

power isn't always a plus in a handheld optic. A 10x image is shakier because any hand movement is magnified as much as the image is. Many people find they can actually see more detail handheld 8x than 10x binoculars. It's personal.

Wider field of view. You spot a bird in the tree canopy and quickly raise your binoculars to your eyes. The wider the field of view, the more likely that the bird will be in it. This is especially true for birds that don't stay put. Lower magnification in binoculars means a wider field of view, so many birders prefer 8x to 10x.

Why Choose a 42mm Objective Lens?

More resolution. All other things being equal, the larger the objective lens, the better the resolution in the image. But you pay, with increased weight and size. How much resolution you need depends on how much you're going to magnify an image. For 8x or 10x magnification, a 42mm objective lens provides plenty of resolution.

There's no need to exceed your eyes' ability to see. The reason people might choose larger objectives would not be for increased resolution but for more brightness in dim light or when night viewing or star gazing.

Brighter sometimes. The 8x42 binoculars create a 5.25mm exit pupil ($42\text{mm} \div 8 = 5.25\text{mm}$). The exit pupil is the diameter of the



Team Iowa out in the field.

column of light coming out of the eyepieces. A larger objective lens provides a wider column and allows more light to enter your eyes when your pupils dilate at night.

The average youthful pupil dilates only to about 7mm even in total darkness. As we age, our eyes' ability to dilate gradually diminishes, so a 5.25mm exit pupil may deliver all the light your eye can use, even in dim-light conditions. Therefore, a 42mm objective is a good, practical compromise between brightness and weight.

In daylight, when your pupils contract to about 3mm, most of the light coming out of the binoculars will fall outside the pupil and never enter your eyes at all. Making the exit pupil larger won't make the

image look any brighter.

Easier to use. An exit pupil that is bigger than the pupil of your eyes is sometimes useful. It's easier to position your eyes in the column of light—a helpful feature if you have shaky hands or if you're on a boat!

What and How We Tested
Focus mechanism. Your primary interaction with binoculars is focusing. This should be an intuitive, transparent experience.

There should be little or no slack. One achieves the best focus by turning past the sharpest point and then back to it. Slack in the focus mechanism messes with this strategy. Also, if you detect sloppiness while turning the focus knob, it raises doubts about the overall quality of

MICHAEL PORTER

the binoculars.

The knob should turn smoothly throughout its entire range. There should be no hint of dragging or noise. The turning resistance should be enough to prevent unintentional movement and give good kinesthetic feedback but not be too stiff. In order to make fine adjustments, you should be able to initiate turning the knob without a jerk.

People vary in how much turning resistance they like. Therefore we did not "ding" a binoculars' score unless we thought the focusing was clearly too stiff or too loose.

The focus knob should have a nonslip surface, so your fingertip gives a secure tactile feedback and tells your brain you don't have to push down hard for traction—just move your finger. A soft rubber surface with a pattern or ridges works well.

Fit-and-feel. Ergonomics plays a big role in choosing binoculars. Because optical quality even in mid-priced binoculars has become so good in recent years, fit-and-feel may well be the deciding factor in choosing one pair of binoculars over another.

In scoring fit-and-feel, here are some of the issues we considered:

Are the binoculars comfortable to hold? How does the armor coating feel against the skin? Is it grippy enough without being annoyingly rough? Do the strap lugs dig into your hand? Are there

any sharp edges? Are there any bumps, depressions, or ridges that work well only for hands of a certain size? Are the binoculars well balanced? How intuitively do they aim? How comfortable is it to reach the focus knob?

Diopter adjustment. The diopter setting lets you customize the binoculars' focusing to accommodate any differences between your two eyes. The setting will differ from person to person. You should have to set the diopter only once, unless you lend your binoculars to someone else who changes your setting.

The best diopter mechanisms lock, so they can't be changed accidentally. And they have an easy-to-read scale, so you can return to your preferred setting if it does get changed. The worst diopter mechanisms have neither lock nor scale and are so easy to turn that they are likely to get changed unintentionally.

Resolution. As in previous reviews, we tested optical resolution using a 1951 U.S. Air Force optics resolution chart. We used a beanbag rest that let us carefully compare two pairs of binoculars side by side. A halogen floodlight provided consistent lighting. In case of ties, we had a 2x doubler handy to place behind the eyepiece.

The human eye's ability to resolve detail can change because of fatigue or time of day. As a control for consistency, we used a pair of

high-end binoculars to continually check the level of details that our eyes were able to see.

We mapped the resolution results so that the top score was 5. Note that the resolution scores in this chart (Page 52) are very close. Adjacent gradations represent differences that can be seen only from an absolutely stable platform, and possibly only with a doubler.

We know you're curious how these mid-priced binoculars stacked up against our high-end reference binoculars, so we'll tell you. The high-end binoculars' resolution score would be a 5.5.

It's wisest to use the chart as a rough guide and not to obsess overly on a resolution score difference that you might be unable to see in the field. Furthermore, it's possible that the one sample of each of the binoculars we studied could have been atypical. The best use of this chart is to help you narrow down your choices to a few binoculars that you can test personally and then find out which one suits you best.

Choosing binoculars is always a very individual and holistic task.

Team Test Day

In order to integrate more opinions into our test, we invited some Iowa birders for a testing day. They had access to the same testing tools we used to compare binoculars. We have integrated their evaluations and comments into the reviews.

MICHAEL PORTER



The Vanguard Endeavor shown "in hand."

Chart Scores

The chart is sorted by overall score, with the best at the top. We scored the focus knob, diopter mechanism, fit-and-feel, and optical resolution on a scale of 5 to 1, with 5 being the best. The overall score derives from these four categories, with the optical resolution weighted most, focus knob and fit-and-feel next, and the diopter score least.

Close focus, field of view, eye relief, and size are not scored because people's concerns for these features vary individually. The specifications, however, appear in the chart.

The prices were determined by market research as of October 2011. They are not written in stone.

There isn't enough room in this article to review each of the binoculars individually. Here are some we singled out because they were top scorers, good buys, or interesting in some other way.

Individual Reviews

Vanguard Endeavor ED 8x42 Overall Score: 5.00

The Vanguard Endeavor got the top overall score, even though it's priced at a modest \$350. Its 5.0 resolution score tied with the Vortex Viper for top place. A remarkable best buy!



It's an open-bridge design with outstanding optics and ergonomics. It's slimmer and shorter than most of the other open-bridge binoculars in our study. Its armoring is a soft, textured, grippy surface, as hand-friendly as it gets. The strap lugs, which are also armored, gently curve out to protect the hands.

A concave area on the bridge provides a natural resting place for your middle finger, positioning your index finger in line with the focus knob. This small detail means you tend to grip the binoculars the same way each time. A consistent grip assists the kinesthetic intelligence you use when instinctively pointing binoculars at a bird.

The focus knob has no slack and provides just the right amount of resistance. Its surface is soft, rubbery, and deeply grooved. A $\frac{3}{4}$ turn takes you through the entire focus range. Because Vanguard owns its

own manufacturing facilities in China and has its own in-house optical engineers, the company has complete control over the design and product quality.

Pro: Excellent optical quality; fast focus; 19mm eye relief; wonderful ergonomics, with slender, easy-to-hold barrels; great value for the money.

Con: Minimum focus distance is 8.2 feet.

Vortex Optics Viper HD 8x42 Overall Score: 4.95

The Viper tied for top place with the Vanguard Endeavor for best resolution score and came in second overall.

The Viper got a perfect score on fit-and-feel.

Its overall score was lower than the Vanguard's only because the Viper's diopter adjustment doesn't have a scale. The main difference between the two models is that the Viper is the smaller, more compact solid-bridge design, whereas the Vanguard is the longer, single-hand-grip, open-bridge design.

At 5.1 feet, the Viper's close focus beats the Vanguard's. The Viper is a little more lightweight and more compact. It also has slightly longer eye relief.

The focus knob is a pleasure to use: grippy, smooth turning,



with just the right degree of easy resistance, and perfectly free from slack. It takes $1\frac{3}{4}$ turns to go from lock to lock, with the first $\frac{1}{2}$ turn used to traverse from the minimum focus of 5.1 feet to 8 feet.

Pro: Excellent optical quality and ergonomics; 20mm eye relief; 5.1-foot minimum focusing distance. Manufacturer's unlimited lifetime warranty is unsurpassed: Vortex promises to repair or replace accidentally damaged Viper binoculars at no charge, and the warranty is transferable.

Con: No diopter scale.

Zen-Ray Optics Zen ED3 8x43 Overall Score: 4.46

The Zen ED3 gives the viewer that Wow experience that comes with excellent optics and a wide field of view—426 feet at 1,000 yards.

It sports the open-bridge design that allows the fingers

to wrap around one barrel. As is common in this design, the Zen ED3 is a little longer (6.5 inches) and heavier (27 ounces) than most binoculars of a conventional solid-bridge design. It has excellent ergonomics, and the strap lugs are covered, soft, and close enough to the eyepieces so as not to conflict with your grip.

Just one turn of the focus knob takes you from a close focus of 6.5 feet to infinity. The focus



knob is free from slack and offers the right degree of resistance. It is unusually wide and would be easy to operate even with gloves.

The eyecups have an innovative design. When collapsed, they allow eyeglasses to come closer to the eyepiece glass than most binoculars do, effectively providing a few extra millimeters of eye relief. Birders with close-set eyes may appreciate the fact that the Zen's barrels can squeeze close together. Most binoculars are more limited in this respect.

The diopter adjustment doesn't have a scale, but it has clicks.

Pro: Wide field of view; fast focus; good ergonomics; unique extra tripod adapter socket at center of gravity of the binoculars.

Con: Diopter setting doesn't lock; some judges found the thumb indentations too far from the focus knob.

Nikon Monarch ATB 8x42 Overall Score: 4.38

Another best

buy. The Monarch ATB earned an excellent 4.5 optical resolution score, earning a fourth place overall rating, while competing against binoculars costing up to twice as much.

At 21.5 ounces it was the second-lightest-weight binocular in the survey. It's hand-friendly,



with lugs that don't poke, eye-cups that twist-click up neatly, outstanding 19.6mm eye relief for eyeglasses, and one of the smoothest, most precise focus knobs of the lot. The focus knob turns $1\frac{1}{4}$ turns lock to lock.

Beginning in January 2012, the Monarch ATBs will be renamed the Monarch 5 Series. They will sport a new logo on the body but will be unchanged otherwise.

Pro: Long eye relief; lightweight; outstanding value for a low price.

Con: Minimum focus distance is 9.8 feet.

Eagle Optics Ranger ED 8x42 Overall Score: 4.33

With a new open-bridge design, the Eagle Optics Ranger ED is different than the previous, solid-bridge Rangers, which are still available.

The binoculars provide an extremely satisfying view, the product of their excellent resolving ability and one of the widest fields of view (425 feet) in our survey. The Ranger ED seems to have excellent build quality as well. All the moving parts function smoothly and neatly, from focus knob to diopter adjustment. Ergonomically, the binoculars



are well designed. The focus knob is smooth and precise, and it's wide enough even for a person wearing heavy gloves. The focus knob turns $1\frac{1}{4}$ turns lock to lock.

The barrels squeeze closer together than those of most binoculars, thereby accommodating birders with close-set eyes. Like most open-bridge binoculars, these are longer (6.7 inches) and heavier (27.4 ounces) than most binoculars of a conventional solid-bridge design.

Pro: Excellent optical quality; wide field of view; excellent ergonomics.

Con: Armored coating is harder than some people like; diopter setting doesn't lock.

Vortex Optics Diamondback 8x42 Overall Score: 4.32

Another best buy. The Diamondback is a notably hand-friendly binocular. The strap lugs are close to the eyepieces, so they don't cut into your



hands, and the armored coating swells out and covers them, making the binoculars exceptionally comfortable to hold.

The diopter adjustment has no lock but does have enough turning resistance to keep it from being accidentally moved. The focus knob turns $1\frac{3}{4}$ turns lock to lock.

MICHAEL PORTER (4)

The Diamondback sports a wide 420-foot field of view. The 18mm of eye relief are enough to make it good with eyeglasses.

Pro: Long 18mm eye relief; wide field of view; lowest-priced binoculars in our top 10 overall scorers.

Con: No diopter lock.

Alpen Apex 8x42 Overall Score: 4.23

Although this is one of the least expensive binoculars in the study, it equaled or bettered all but the top two binoculars with its 4.8 resolution score.

It has an outstanding 20mm of eye relief. The strap lugs are near the eyepiece and are partially protected by a swelling of the armored covering, making the binoculars very hand-friendly.

The diopter adjustment has no lock, but it has a scale and click indents and a clear, red center indicator so you can see at a glance if it's set properly. The focus knob turns $1\frac{1}{2}$ turns lock to lock.

Pro: Exceptional optics for the price; good ergonomics; long eye relief.

Con: No diopter lock.



Kowa SV42-8 8x42 Overall Score: 4.17

Another best

buy. This new Kowa SV42-8 binocular is long and slim, with a pleasant armored covering. It's hand-friendly and especially good for people with smaller hands. The focus knob turns $1\frac{1}{4}$ turns lock to lock.

At \$210 it's among the least expensive binoculars in the study.

Pro: Long 19.5mm eye relief; low price; good ergonomics; good value for a low price.

Con: Rather narrow field of view of 330 feet; minimum focus distance is 13.1 feet.



A Last Thought

One of the joys of living in a technological age is that good equipment keeps getting cheaper and cheaper. You no longer have to mortgage the house to get good birding binoculars.

If you haven't upgraded your optics for a while, it's worth a trip to your local optics store to take a look at some of the new binoculars. Maybe even take a grandchild along.

Michael and Diane Porter are avid bird watchers who operate the website birdwatching.com.

8X42 BINOCULAR REVIEW

Manufacturer	Model	Size	Design	Core Focus	Field of View (ft. @ 1000 yds.)	Eye Relief (in.)	Weight (oz.)	Length (in.)	Wt. (lb.)	Waterproof	Eye Cup Style	Diopter Location	Diopter Lock	Diopter Score	Focus Knob Score	Closest Focus Score	Field of View Score	Resolution Score	Overall Score	Price
Vanguard	Endeavor ED 8x42	8x42	OB	8.2	367	19.0	25.8	6.0	5.1	Y	TC	E	Y	Y	5.0	5.0	5.0	5.0	5.00	\$349.99
Vortex Optics	Viper HD	8x42	SB	5.1	347	20.0	24.2	5.8	5.3	Y	TC	E	Y	N	5.0	4.5	5.0	5.0	4.95	\$389.99
Zen-Ray Optics	Zen ED3 8x43	8x43	OB	6.5	426	16.8	27.0	6.5	5.0	Y	TC	E	N	Y	4.5	4.0	4.5	4.5	4.46	\$620.00
Nikon	Monarch 8x42	8x42	SB	9.8	330	19.6	21.5	5.7	5.1	Y	TC	E	N	Y	4.9	3.5	4.0	4.5	4.38	\$279.95
Eagle Optics	Ranger ED	8x42	OB	6.0	425	18.0	27.4	6.7	5.0	Y	TC	E	N	N	4.9	3.0	4.0	4.5	4.33	\$439.99
Vortex Optics	Diamondback	8x42	SB	4.5	420	18.0	25.2	5.9	5.6	Y	TC	E	N	Y	4.9	3.5	4.0	4.3	4.32	\$219.99
Alpen	8x42 Teton	8x42	SB	8.2	383	17.0	26.0	6.0	4.8	Y	TC	E	N	Y	4.3	4.5	4.0	4.5	4.30	\$539.00
Alpen	8x42 Apex	8x42	SB	5.0	341	20.0	22.0	5.8	5.0	Y	TC	E	N	Y	4.0	4.0	4.0	4.8	4.23	\$279.00
Pentax	DCF CS 8x42	8x42	SB	8.2	383	21.0	22.6	5.8	5.3	Y	TC	FK	N	N	4.8	2.9	4.0	4.3	4.23	\$279.00
Eagle Optics	Ranger	8x42	SB	5.2	341	19.5	21.8	5.8	5.1	Y	TC	E	N	Y	4.5	3.5	4.0	4.3	4.20	\$299.99
Kowa	SV42-8	8x42	SB	13.1	330	19.5	23.5	6.8	5.3	Y	TC	E	N	Y	4.2	3.5	4.2	4.3	4.17	\$210.00
Alpen	8x42 Wings ED	8x42	SB	6.5	383	17.0	24.0	5.5	4.8	Y	TC	E	N	N	4.5	3.0	3.5	4.8	4.13	\$389.00
Leupold	BX-2 Cascades	8x42	SB	9.9	341	18.0	22.9	5.5	4.9	Y	T	FK	Y	Y	3.7	5.0	4.0	4.3	4.11	\$279.99
Bushnell	Elite 8x42	8x42	OB	8.0	330	19.5	25.7	5.5	5.1	Y	T	FK	Y	Y	4.0	4.2	4.0	4.1	4.05	\$479.95
Opticron	Countryside BGA Oasis	8x42	SB	9.5	358	19.0	23.0	5.4	5.0	Y	TC	FK	Y	Y	3.7	5.0	4.0	4.1	4.04	\$349.00
Kowa	BD42-8x	8x42	SB	6.6	331	18.3	25.7	5.8	5.0	Y	TC	E	N	N	4.9	3.0	3.0	4.5	4.03	\$590.00
Leupold	Bx-3 Mojave	8x42	OB	8.0	388	19.0	23.4	5.6	4.9	Y	TC	FK	Y	Y	3.5	5.0	4.0	4.1	3.98	\$279.99
Zen-Ray Optics	Zen-Ray Summit HD	8x42	SB	6.0	383	17.3	22.7	5.5	4.8	Y	TC	E	N	Y	3.7	3.0	3.5	4.3	3.76	\$205.00
Celestron	Granite	8x42	SB	6.5	426	17.0	24.0	6.0	5.0	Y	TC	E	N	Y	3.5	3.5	3.5	4.1	3.68	\$439.95
Vixen Optics	Foresta HR 8x42 WP	8x42	SB	9.8	389	18.0	23.1	5.8	5.0	Y	TC	FK	Y	Y	4.5	5.0	2.0	4.1	3.68	\$349.00
Minox	BL 8x44	8x44	OB	8.0	446	19.5	26.1	5.2	5.9	Y	TC	E	N	Y	3.2	4.0	3.5	4.1	3.64	\$489.00
Minox	BV 8x42	8x42	SB	4.9	389	18.0	27.5	5.5	5.0	Y	TC	E	N	N	3.5	3.0	3.5	4.1	3.63	\$289.00
Bushnell	Legend Ultra HD	8x42	SB	8.0	426	17.2	24.7	5.5	5.0	Y	TC	E	N	Y	3.5	4.0	3.5	3.8	3.59	\$289.95
Kruger	Caldera Roof	8x42	SB	5.0	438	18.5	25.0	5.3	5.1	Y	TC	FK	Y	Y	3.2	2.0	4.0	4.1	3.59	\$447.00
Opticron	Discovery WP PC	8x42	SB	4.9	430	22.0	24.8	5.2	5.0	Y	TC	E	N	Y	3.5	3.5	3.0	4.1	3.53	\$219.00
Kenko	Ultraview EX 8x42	8x42	SB	8.2	394	19.0	23.3	5.8	5.2	Y	TC	FK	N	N	3.5	2.0	3.5	4.1	3.53	\$229.00
Yukon	Frontier 8x42	8x42	SB	6.0	429	17.0	24.6	5.3	4.9	Y	TC	E	N	Y	4.5	3.0	2.0	4.1	3.48	\$199.99
Kenko	OP 8x42HD MarkII	8x42	OB	8.2	394	18.0	31.7	6.6	5.7	Y	T	E	Y	N	3.0	3.0	3.0	4.1	3.33	\$599.00
Carson	TD-842 3D Series	8x42	SB	9.8	330	19.5	23.0	5.5	5.0	Y	T	E	N	N	3.5	3.0	2.0	4.1	3.18	\$249.99

LEGEND

OB=open bridge, SB=solid bridge
 T=twist-up eyecups, TC=twist-up with clicks
 FK=with focus knob, E=on eye piece

Diopter Lock: Y=has a lock, N=no lock
 Diopter Score: Y=has a scale, N=no scale
 All Scores: 5.0 is highest possible score
 Price: Market price as of October 2011

St. Onge Steward Johnston & Reens LLC

986 Bedford Street
Stamford Connecticut 06905-5619
(203) 324 6155
(203) 327 1096
ssjr.com

April 29, 2005

Via Express mail
And Email: charles@coincrafters.com

Ms. Cynde Jackson
Coin Crafters and Engravers
P.O. Box 1928
Pagosa Springs, Colorado 81147

Re: Infringement of Eagle Optics Trademark
SSJR Ref: 03584-I0029A

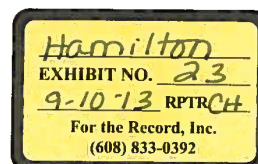
Dear Ms. Jackson:

We are attorneys for Eagle Optics (Sheltered Wings, Inc.), owner of the trademark EAGLE OPTICS, U.S. Trademark Reg. No. 2,886,199 for Binoculars, Spotting Scopes, And Telescopes, All For Use In Birdwatching, And Storage Cases Therefor (copy enclosed). Eagle Optics also uses its trademark EAGLE OPTICS in connection with its retail store and mail order services for optical products. Eagle Optics has used its name as a servicemark since 1986 and as a trademark since 1996.

Recently, we have noted that you are the domain name registrant of the **eagleopticsusa.com** domain name, and are using the name "Eagle Optics USA" and are operating a website at www.eagleopticsusa.com to promote the sale of various goods and services.

We believe that your use of Eagle Optics USA is likely to cause confusion or mistake and may lead customers to believe that your website is affiliated with or sponsored by Eagle Optics, giving rise to claims for trademark infringement under Sections 32 and 43 of the Lanham Act and other statutes.

Also, the use of the domain name **eagleopticsusa.com** to sell products is improper. A recent case decided by a WIPO arbitrator under an ICANN domain name arbitration recently awarded a brand owner the domain name in a similar situation. See Kabushiki Kaisha Toshiba d/b/a Toshiba Corporation v. Telephone Island, Case No. D2004-0711, <http://arbiter.wipo.int/domains/decisions/html/2004/d2004-0711.html> (toshibastrata.com transferred to Toshiba where domain name registrant is not an authorized reseller of Toshiba Strata telephones).



New York (212) 730 4554
New Haven (203) 562 0400

Ms. Cynde Jackson
Coin Crafters and Engravers
April 29, 2005
Page 2


Accordingly we request that you:

- (1) Terminate all further use of "Eagle Optics USA" or any other similar name;
- (2) Transfer the **eagleopticsusa.com** domain name to our client.

Please provide us with a response, either directly, or through your attorneys, by May 16, 2005. If we do not hear from you we will assume that you intend to continue the trademark infringement and domain name misuse and will take such legal steps as we deem necessary to protect our client's rights.

We look forward to your response.

Very truly yours,



Stephen P. McNamara
spm@ssjr.com

SPM:pas
Encl.
C: Eagle Optics

The United States of America



**CERTIFICATE OF REGISTRATION
PRINCIPAL REGISTER**

The Mark shown in this certificate has been registered in the United States Patent and Trademark Office to the named registrant.

The records of the United States Patent and Trademark Office show that an application for registration of the Mark shown in this Certificate was filed in the Office; that the application was examined and determined to be in compliance with the requirements of the law and with the regulations prescribed by the Director of the United States Patent and Trademark Office; and that the Applicant is entitled to registration of the Mark under the Trademark Act of 1946, as Amended.

A copy of the Mark and pertinent data from the application are part of this certificate.

To avoid CANCELLATION of the registration, the owner of the registration must submit a declaration of continued use or excusable non-use between the fifth and sixth years after the registration date. (See next page for more information.) Assuming such a declaration is properly filed, the registration will remain in force for ten (10) years, unless terminated by an order of the Commissioner for Trademarks or a federal court. (See next page for information on maintenance requirements for successive ten-year periods.)



Jon W. I. Dudas

Director of the United States Patent and Trademark Office

Int. Cl.: 9

Prior U.S. Cls.: 21, 23, 26, 36 and 38

United States Patent and Trademark Office

Reg. No. 2,886,199

Registered Sep. 21, 2004

**TRADEMARK
PRINCIPAL REGISTER**

EAGLE OPTICS

SHELTERED WINGS, INC. (WISCONSIN CORPORATION)
2120 W. GREENVIEW DR. #4
MIDDLETON, WI 53562

NO CLAIM IS MADE TO THE EXCLUSIVE
RIGHT TO USE "OPTICS", APART FROM THE
MARK AS SHOWN.

FOR: BINOCULARS, SPOTTING SCOPES, AND
TELESCOPES, ALL FOR USE IN BIRD WATCHING,
AND STORAGE CASES THEREFORE, IN CLASS 9
(U.S. CLS. 21, 23, 26, 36 AND 38).

SER. NO. 78-029,311, FILED 10-5-2000.

FIRST USE 1-1-1996; IN COMMERCE 4-1-1996.

APRIL L. RADEMACHER, EXAMINING ATTOR-
NEY

DOCUMENTS TO MAINTAIN YOUR FEDERAL
TRADEMARK REGISTRATION

Requirements in the First Ten Years****What and When to File:***

- First Filing: A Declaration of Continued Use (or Excusable Non-use), filed between the 5th and 6th years after the registration date. (See 15 U.S.C. §1058; 37 C.F.R. §2.161.)
- Second Filing: A Declaration of Continued Use (or Excusable Non-use) **and** an Application for Renewal, filed between the 9th and 10th years after the registration date. (See 15 U.S.C. §1058 and §1059; 37 C.F.R. §2.161 and 2.183.)

Requirements in Successive Ten-Year Periods****What and When to File:***

- A Declaration of Continued Use (or Excusable Non-use) **and** an Application for Renewal, filed between each 9th and 10th-year period after the date when the first ten-year period ends. (See 15 U.S.C. §1058 and §1059; 37 C.F.R. §2.161 and 2.183.)

Grace Period Filings*

There is a six-month grace period for filing the documents listed above, with payment of an additional fee.

The U.S. Patent and Trademark Office (USPTO) will **NOT** send you any future notice or reminder of these filing requirements. Therefore, you should contact the USPTO approximately one year prior to the deadlines set forth above to determine the requirements and fees for submission of the required filings.

NOTE: *Electronic forms for the above documents, as well as information regarding current filing requirements and fees, are available online at the USPTO web site:*

www.uspto.gov

**YOUR REGISTRATION WILL BE CANCELLED IF YOU DO NOT
FILE THE DOCUMENTS IDENTIFIED ABOVE DURING THE
SPECIFIED TIME PERIODS.**

***Exception for the Extensions of Protection under the Madrid Protocol:**

The holder of an international registration with an extension of protection to the United States must file, under slightly different time periods, a Declaration of Continued Use (or Excusable Non-use) at the USPTO. See 15 U.S.C. §1141k; 37 C.F.R. §7.36. The renewal of an international registration, however, must be filed at the International Bureau of the World Intellectual Property Organization, under Article 7 of the Madrid Protocol. See 15 U.S.C. §1141j; 37 C.F.R. §7.41.

St. Onge Steward Johnston & Reens LLC

986 Bedford Street
Stamford Connecticut 06905-5619
(203) 324 6155
(203) 327 1096
ssjr.com

COPY

December 5, 2006

VIA FEDEX AND FACSIMILE
TRK NO: 7915 9530 3370 / 800-382-6789

Mr. Scott Jacobs
SafeTGard Sport Optics, LLC
12105 W. Cedar Drive
Lakewood, CO 80228

Re: Infringement of **Eagle Optics** Trademark
SSJR Ref: 03584-10048A

Dear Mr. Jacobs:

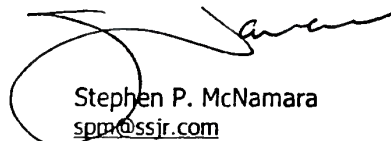
We are attorneys for Eagle Optics (Sheltered Wings, Inc.), owner of the trademark **EAGLE OPTICS**, U.S. Trademark Reg. No. 2,886,199 for Binoculars, Spotting Scopes, and Telescopes, all for use in Birdwatching, and Storage Cases therefor (copy enclosed). Eagle Optics also uses its trademark **EAGLE OPTICS** in connection with its retail store and mail order services for optical products. Eagle Optics has used its name as a servicemark since 1986 and as a trademark since 1996.

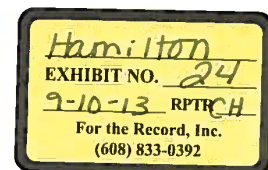
We have noted that you have introduced a line of binoculars under the trademark EAGLE SERIES.

We believe that your use of EAGLE SERIES as a trademark for binoculars is likely to cause confusion or mistake and may lead customers to believe that your products are affiliated with or sponsored by Eagle Optics. The use of EAGLE SERIES is therefore an infringement of our client's trademark **EAGLE OPTICS** under Sections 32 and 43 of the Lanham Act and under state law. We therefore demand that you immediately discontinue all use of EAGLE SERIES and rebrand all your existing inventory to a new name.

Please respond to this letter within seven (7) days of your receipt hereof so we can confirm that you will terminate the infringement. If we do not hear from you we will assume you intend to continue the infringement and will take legal steps as necessary to halt the infringement and recover damages.

Very truly yours,


Stephen P. McNamara
spm@ssjr.com



SPM:pas
Enclosure

New York (212) 730 4554
New Haven (203) 562 0400

© Swift Sport Optics, LLC 2006. All rights reserved.

SWIFTPREMIER HP EAGLE SERIES

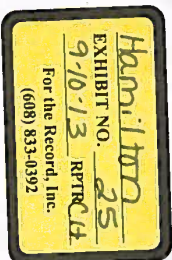
Why settle with the ordinary when extraordinary is within your grasp. The Swift Eagle Series is a MUST SEE for all outdoor enthusiasts. This extraordinary series features CFT (Cold Fusion Technology) Prisms, the latest advancement in prism coating technology. CFT provides increased reflective performance up to 99.8%, enhanced brightness and superior color definition ideal for dawn to dusk use. Visit us as BirdWatch America or see an authorized Swift Sport Optics dealer for a better view.

825 Swift Eaglelet 7x36, 826 Swift Eagle 8x42 and 827 Swift Eagle 10x42



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September 5, 2008

Istvan J. Kovary
3923 W. St. John Road
Glendale, AZ 85308

VIA FACSIMILE 602-548-4963

Re: Infringement of "EAGLE OPTICS" trademark

Dear Mr. Kovary:

I am the attorney for Sheltered Wings, Inc. My client owns the trademark EAGLE OPTICS for binoculars, spotting scopes, and telescopes. My client owns US Trademark Registrations 3192083 and 2886199, which are based on use of the mark going back to 1996.

I am writing to object both to your use of and application to register the term "EAGLE EYE OPTICS COMPANY" for riflescopes, and to demand that you immediately cease and desist using the terms "Eagle" and "Optics" on your optical products. As you use and promote your brand, we are being substantially and irreparably damaged, and will continue to be as long as your use continues.

Your brand adopts the entirety of our trademark, and uses it as the dominant part of the mark. You use the infringing mark on riflescopes and binoculars, which are closely related or identical to the goods and services to which our mark applies. It is a fundamental principle of trademark law that trademark rights extend not just to identical goods, but to related goods.

There are substantial damages you may be liable for, including potential criminal penalties for certain forms of infringement. You will learn more about these when you consult a trademark litigation specialist. I can tell you that fighting the opposition we will file with the Patent and Trademark Office will be in the \$50,000 range, and litigation over infringement is on the order of six figures in a basic case. Please keep in mind that this is one of my client's core brands that they have investing heavily in, and the value to them is well beyond even the worst-case legal fee scenario.

Your Application for Registration

We have reviewed the public records showing your attempt to register your brand, and note that the US Patent and Trademark Office examiner has properly rejected your application for various reasons, including the likelihood of confusion with my client's trademark. This shows that our claim of infringement is unquestionably strong, as viewed by an unbiased third party. However, even if you overcame the rejection, we would still file an opposition to the registration, requiring a substantial investment in a battle you would most surely lose. And even if you received the registration, that would not change our opinion that your use of the trademark, registered or not, infringes my client's rights.

To be clear, we are not just asking for you to withdraw your application, but to immediately discontinue using the brand you currently apply to your products. Meanwhile, you are accruing increasing legal and financial liability for your infringement of my client's trademark rights.

P.O. Box 759 Genoa, Nevada 89411 tel + fax 877.230.5950 patent@langlotz.com



Langlotz Patent Works, Inc.

2

We would also take appropriate action with US Customs Service to ensure that infringing goods are not imported.

Conclusion

We're asking you to immediately discontinue using the words "Eagle" and "Optics" together on your products in any manner, remove it from your promotional materials and website, and destroy any materials you have created that bear the word. The simple solution is to pick another brand, one which you can secure, register, and invest in.

You will need to file an express abandonment form (<http://www.uspto.gov/teas/eTEASpageF.htm>), and agree in writing that you will discontinue using your brand. If you reply promptly and agreeably, we should be agreeable to a resolution that avoids your having to scrap substantial inventory.

This applies to those retailers who are carrying infringing inventory. We will momentarily defer notifying them of the liability they are incurring for selling your infringing products, so that you may contact them and advise them of your brand transition in a way that better preserves your relationship. If we do not receive an agreeable reply, we will take steps to contact your retailers, and stop their sales of infringing product.

Please contact me by September 19, 2008 with your assurance that you agree to proceed as we require. Please reply by fax or email so that your response reaches me by then.

Sincerely,
LANGLOTZ PATENT WORKS, INC.

Bennet Langlotz, Patent Attorney



May 26, 2009

Mike & Kathy Webb
15200 W County Rd 550 N
Alexandria, Indiana 46001-9327

VIA FACSIMILE 1-866-696-9954

Re: Infringement of "EAGLE OPTICS" trademark

Dear Mr. and Mrs. Webb:

I am the attorney for Sheltered Wings, Inc. My client owns the trademark EAGLE OPTICS for binoculars, spotting scopes, and telescopes. My client owns US Trademark Registrations 3192083 and 2886199, which are based on use of the mark going back to 1996.

I am writing to object both to your use of the term "EAGLE VISION" for binocular retailing services, and to demand that you immediately cease and desist using the terms "Eagle" in conjunction with sales of optical products. As you use and promote your brand, we are being substantially and irreparably damaged, and will continue to be as long as your use continues.

Your brand adopts the dominant element of our trademark, and uses a closely related term to the second part of our trademark. You use the infringing mark for sales of binoculars, which are closely related or identical to the goods and services to which our mark applies.

You will note that the only registered trademark for binoculars employing the word "Eagle" is owned by Nikon, and only with my client's permission. All others have been cancelled or abandoned.

There are substantial damages you may be liable for, including potential criminal penalties for certain forms of infringement. You will learn more about these when you consult a trademark litigation specialist. Please keep in mind that this is one of my client's core brands that they have investing heavily in, and the value to them is well beyond even the worst-case legal fee scenario.

We're asking you to immediately discontinue using the word "Eagle" on your products in any manner, remove it from your promotional materials and website, and destroy any materials you have created that bear the word. This includes discontinuing use of your current domain name in conjunction with binocular sales.

We recognize that this enforcement of my client's longstanding rights will be disruptive, and we are willing to allow a reasonably limited transition period. However, we are firm in our intention to fully enforce our rights and to preserve the value of an extremely valuable business asset by preventing any attempt to use the term "Eagle" on related goods.

Please contact me by June 1, 2009 with your assurance that you agree to proceed as we require. Please reply by fax or email so that your response reaches me by then.

P.O. Box 759 | Genoa, Nevada 89411 | tel + fax 877.230.5950 | patent@langlotz.com



Langlotz Patent & Trademark Works, Inc.

2

Sincerely,
LANGLOTZ PATENT & TRADEMARK WORKS, INC.

A handwritten signature in black ink, appearing to read 'BTL' with a stylized flourish at the end.

Bennet Langlotz, Patent Attorney

REDACTED

From: mikawinc@hughes.net

To: Bennet Langlotz

Sent: Wed Jun 17 17:51:59 2009

Subject: Re: EAGLE OPTICS Trademark

We're in the process of closing down our website and it should be shut down before July 1, 2009.

Mike & Kathy Webb

On May 26, 2009, **bennet@Langlotz.com** wrote:

Please see attached letter.

Best regards,

Ben

LANGLOTZ PATENT & TRADEMARK WORKS, INC.

Bennet K. Langlotz, Patent and Trademark Attorney

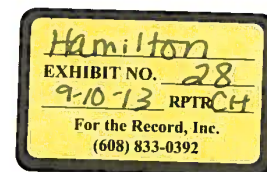
tel, fax 877 230 5950

bennet@langlotz.com

PO Box 759

Genoa, NV 89411

(Mail only, please inquire for parcel delivery address.)



8/3/2012



April 13, 2010

Quality Rifle Scopes
PO Box 3326
Butte, MT 59701

Via First Class mail and via facsimile to (760) 810-0749

Re: EAGLE OPTICS Trademark

To Whom It May Concern:

We represent Vortex Optics, the owner of Sheltered Wings, Inc. Sheltered Wings is the owner of Trademark Application Number 77/641594 for EAGLE OPTICS for riflescopes and Trademark Registration Nos. 3,192,083 and 2,886,199 for both the EAGLE OPTICS logo mark and word mark for binoculars and spotting scopes. Sheltered Wings Inc. has used the EAGLE OPTICS trademark since 1996.

It has come to our attention that you are offering a line of "IJK/EAGLE EYE OPTICS" riflescopes on your website (www.qualityriflescopes.com). Quality Rifle Scopes is infringing our client's trademark because "Eagle Eye Optics" and "Eagle Optics" are virtually identical. The mere addition of the word "Eye" between "Eagle" and "Optics" does not distinguish the marks. The use of the "Eagle Eye Optics" brand is likely to deceive a consumer into believing that the goods advertised on your website come from our client. A retailer who sells goods with a confusingly similar mark commits trademark infringement just as surely as the maker of the scopes does. The scope maker has acknowledged their infringement, and has stopped producing these riflescopes. Now Quality Rifle Scopes must stop selling them.

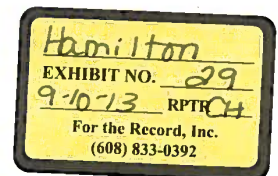
Accordingly, we hereby demand that you immediately remove the "Eagle Eye Optics" name and products from your website and any marketing materials and product packaging or labeling that you may have. The EAGLE EYE mark is one of our client's most valuable core brands, and it will vigorously defend against any infringement on that brand.

Please contact our offices no later than May 1, 2010 with word that you have removed any reference to "Eagle Eye Optics" riflescopes from your website. If we do not hear from you by then, we will take appropriate measures to enforce our client's rights.

Sincerely,

LANGLOTZ PATENT & TRADEMARK WORKS, INC.

Angela V. Langlotz, Trademark Attorney



TTAB

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

IN THE MATTER OF TRADEMARK REGISTRATION No. 2084361
REGISTERED: July 29, 1997

-----X
SHELTERED WINGS, INC.

Petitioner,

Cancellation No.

v.

NIKON, INC.

Registrant.
-----X



11-04-2002

U.S. Patent & TMO/TM Mail Rpt Dt. #70

Trademark Trial and Appeal Board
Box TTAB FEE
Assistant Commissioner for Trademarks
2900 Crystal Drive
Arlington, VA 22202-3513

11/13/2002 KGIBBONS 00000076 2084361

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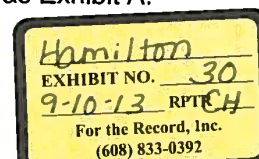
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PETITION FOR CANCELLATION

SHELTERED WINGS, INC. d/b/a EAGLE OPTICS, a Wisconsin corporation,
having offices in Middletown, Wisconsin (hereinafter referred to as "Petitioner") hereby
Petitions to cancel U.S. Trademark Registration No. 2084361 registered July 29, 1997
for the mark EAGLE VIEW in International Class 9 for use in connection with
binoculars.

The grounds for cancellation are as follows:

1. Petitioner is mail order retailer and distributor of optical products,
particularly, binoculars, telescopes and spotting scopes, and has used the service mark
EAGLE OPTICS in connection with mail order services in the field of optical products
since 1986. Examples of such servicemark usage is attached as Exhibit A.



DD

2. In 1996, Petitioner began to distribute and sell its own line of binoculars, telescopes and spotting scopes using the trademark EAGLE OPTICS. Examples of such trademark usage is attached as Exhibit B.

3. Registrant Nikon, Inc. is the owner of U.S. Trademark Reg. No. 2084361 registered July 29, 1997 for the mark EAGLEVIEW for binoculars. According to the registration, Registrant first made use of the mark EAGLEVIEW on November 30, 1996. The application which issued as U.S. Trademark Reg. No. 2084361 was filed under Section 1(b) of the Trademark Act on November 28, 1994, and thus Registrant's rights in its mark arose no earlier than November 28, 1994.

4. Petitioner's first uses of EAGLE OPTICS in 1986 and rights in the mark EAGLE OPTICS occurred long before the Registrant's filing date or first uses of EAGLEVIEW.

5. Petitioner has applied to register EAGLE OPTICS, U.S. Trademark application no. 78/029,311 filed October 5, 2000 for binoculars, telescopes and spotting scopes. Petitioner's application for registration has been refused registration under Section 2(d) of the Trademark Act based on the Examiner's conclusion that the Petitioner's mark EAGLE OPTICS is likely to be confused with Registrant's mark EAGLEVIEW.

6. Petitioner is being harmed by Registrant's U.S. Trademark Reg. No. U.S. Trademark Reg. No. 20843611 registered July 29, 1997 for the mark EAGLEVIEW registered July 29, 1997 for the mark EAGLEVIEW.

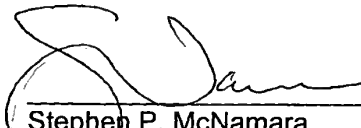
WHEREFORE, Petitioner prays that U.S. Trademark Registration No. 20843611 be cancelled.

A duplicate Petition for Cancellation is being filed herewith along with a check in the amount of \$300.00

Petitioner hereby appoints Stephen P. McNamara, Registration No. 32,745 and Mark J. Speciner of the firm of St. Onge Steward Johnston & Reens LLC, 986 Bedford Street, Stamford, CT 06905-5619, to act as attorneys for Petitioner herein, with full power to prosecute this action, and to transact all relevant business with the Patent and Trademark office and in the United States Courts in connection with this Petition for Cancellation.

Respectfully submitted,

SHELTERED WINGS, INC.

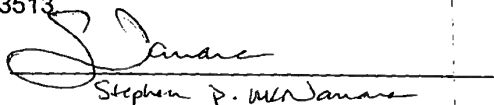


Stephen P. McNamara
Attorney of the State of Connecticut

St. Onge Steward Johnston & Reens, LLC
986 Bedford Street
Stamford, CT 06905
Tel. No: (203) 324-6155
Fax No: (203) 327-1096

Certificate of Mailing: I hereby certify that this correspondence is today being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Box TTAB Fee, Assistant Commissioner for Trademarks, 2900 Crystal Drive, Arlington, VA 22202-3513

Date: November 1, 2002



Stephen P. McNamara

friend tells the story of how a flying squirrel made 147 unsuccessful attempts at jumping from a nearby tree to a hanging feeder. It fell to the ground each time. On the 148th attempt, however, it landed on the feeder correctly. From that time on, it never missed again.

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Water is an essential element in any garden, including already attractive ones. Harrison's re...

gh. a house, a path. He was remodeling with a windows across the door. And there, behind the windows, in the middle of the work week, was this guy with this big cigar hanging out of his mouth, sitting at a big desk with his feet up, whittling on a duck. I looked at my wife, and I pointed to him and said, 'That's for me. That's what I want to do.'

"It was the whole atmosphere. The idea that someone was making a living carving birds. I don't know for sure if he was or wasn't. But the situation just looked good to me."

...went started carving. ... completely unfamiliar. His father carved ... he used for hunting. And my friend, Harold Haertel, is a renowned carver. Though he has never been a hunter, Guge had tried his hand at a couple of decoys in his day. He enjoyed the carving, but it was certainly not an all-consuming interest, and it never occurred to him that it would one day be a full-time occupation.

Guge worked as a house painter for eight hours a day, coming home to carve for another eight. He kept to this intense routine for four years until he was sure he could support his growing family by selling his carvings.

Now, at age 36, Guge's carvings have earned three World-Class titles at the Ward Foundation's World Championship Wildfowl Carving Competition, in the Decorative

... works on this miniature Sharp-

Miniature Wildfowl category. At the 1988 show, he received second place in the Life-size category with "Juncos and Bittersweet." Each year since 1982 his carvings have been accepted at the prestigious "Birds in Art" exhibition of the Leigh Yawkey Woodson Art Museum in Wausau, Wisconsin.

Guge's techniques have reached a wider audience with his feature in Roger Schroeder's *How to Carve Wildfowl*, Book 2, and Stackpole Books' recent release of *Carving Miniature Wildfowl*, cowritten by Schroeder and Guge.

The setting for his life's work is a casual, country style, two-story Cape Cod home located next to his parent's house in his hometown of Carpentersville, Illinois. He lives there with his wife, Jody, daughter, Jordan, and sons, Seth, Joshua, Caleb, Asher, and Gabriel.

Just off the basement family room, Guge works in two small work-

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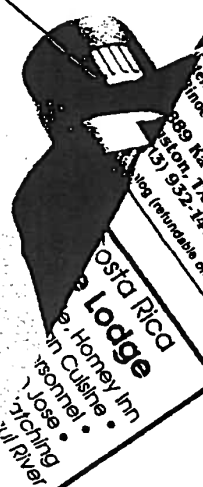
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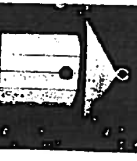
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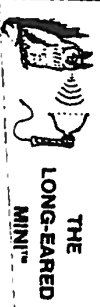
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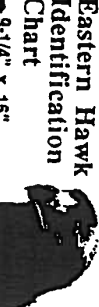


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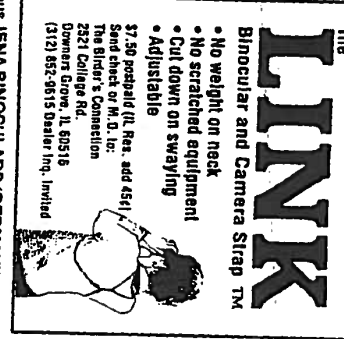
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towers is a major concern of researchers studying migrating birds. According to Sidney Gathreaux, an ornithologist at Clemson University in South Carolina, tall buildings, such as the Washington Monument and the Empire State Building, have always been sources of high mortality for birds that migrate at night.

"With the advent of high tech and very tall television and radio towers, the problem has become substantially greater," says Gathreaux.

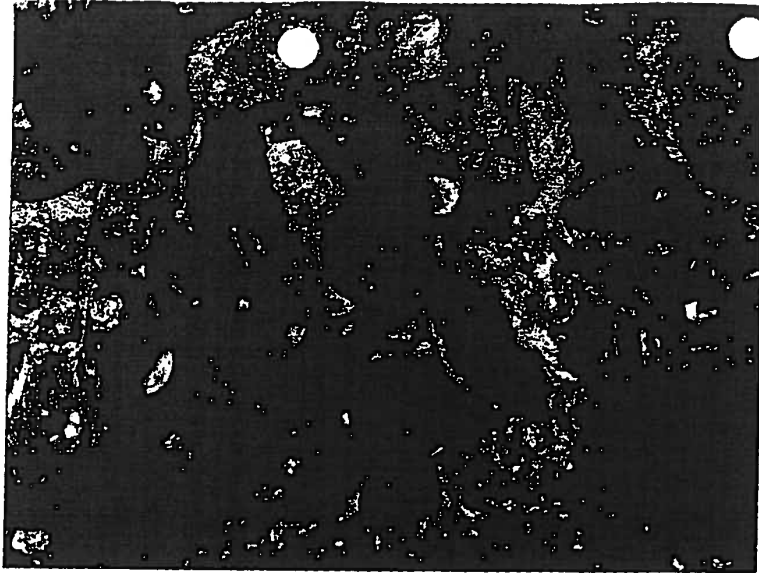
For years, the United States Air Force has realized the attraction airport lights have on migrating birds. But Gathreaux made an interesting discovery—the birds seemed to ignore the runway strobe lights.

"It appears the birds are more attracted to the constantly burning lights at the level at which they were traveling," says Gathreaux. "It may be that light at the bird's eye level is the most important."

Light pollution is a major problem for migrating birds, but the problem is not insurmountable. A number of cities, such as San Diego, California, and Parsippany-Troy Hills, New Jersey, have established new zoning ordinances for street lighting. Some have put in more efficient lighting, using sodium lamps with special deflectors to aim the light at the street, where it is needed, and not at the sky.

Most of these measures were taken primarily to save energy or to make it easier for astronomers at nearby observatories to see into the night-time sky, rather than to help birds. However, all of these steps will greatly help birds that migrate at night. Many more studies need to be conducted to determine exactly how light pollution affects birds and what can be done to minimize the problem. We all need the light, but we must be sure that we do not pay too dear a price for it.

Patricia Barnes-Svarney is a freelance writer/photographer who specializes in nature subjects. Her articles have appeared in a number of major regional and national publications.



Limpet and mollusk shells scattered around nest site by parent birds after feeding the chicks.

watching chores on 12-hour alternating shift. During this time the chicks' pepper-and-salt-colored down dries and becomes more fluffy in appearance. After growing darker within the next three weeks, the fledgling attains full juvenal plumage by the sixth week, when it resembles a winter adult.

Black Oystercatcher hatchlings are born precocial—down-covered and eyes open—but remain dependent on the adults for some time after hatching. At the beginning, the surf-pounded rock environment must be explored cautiously by the young bird. It usually takes about five weeks before a young oystercatcher develops enough sureness of foot to clamber down to the lower tidal areas to begin foraging for food with its parents.

The feeding skills of oystercatchers are so specialized that it often takes three or four months for the fledglings to learn to open mussels and barnacles efficiently—or even to chip chitons and limpets from the rocks. Typical of all types of young, it has an avid appetite. A young bird will consume the equivalent of 120 mussels per day during the period of rapid growth.

A young oystercatcher is a master at "freezing," blending in perfectly with its surroundings. It is helped by its juvenal plumage, which has

"rusty" feather edgings. When a warning is given by a parent oystercatcher, the young bird will immediately flatten down on the rocks with neck and bill outstretched. Nothing except the all-clear call from the parent bird will set the "frozen" oystercatcher free to move again.

Black Oystercatchers are somewhat gregarious, and tend to flock in limited numbers, except during the breeding season, when established pairs will occupy the same territory used in previous years. From about April through August, these pairs can be found defending their territories on promontories, rocky shores, or on some of the smaller offshore islands located along the Pacific Coast.

During the time I have been privileged to observe Black Oystercatchers, it has become quite evident that there is still much more to be learned about these fascinating shorebirds. For the birding enthusiasts that put forth the time and effort, however, observing the Black Oystercatcher is a most rewarding proposition.

Len Penhale is a naturalist and photo-journalist who has received many awards for his efforts on behalf of wildlife. He is based at Morro Bay, California. This is his first article for *WildBird* Magazine.

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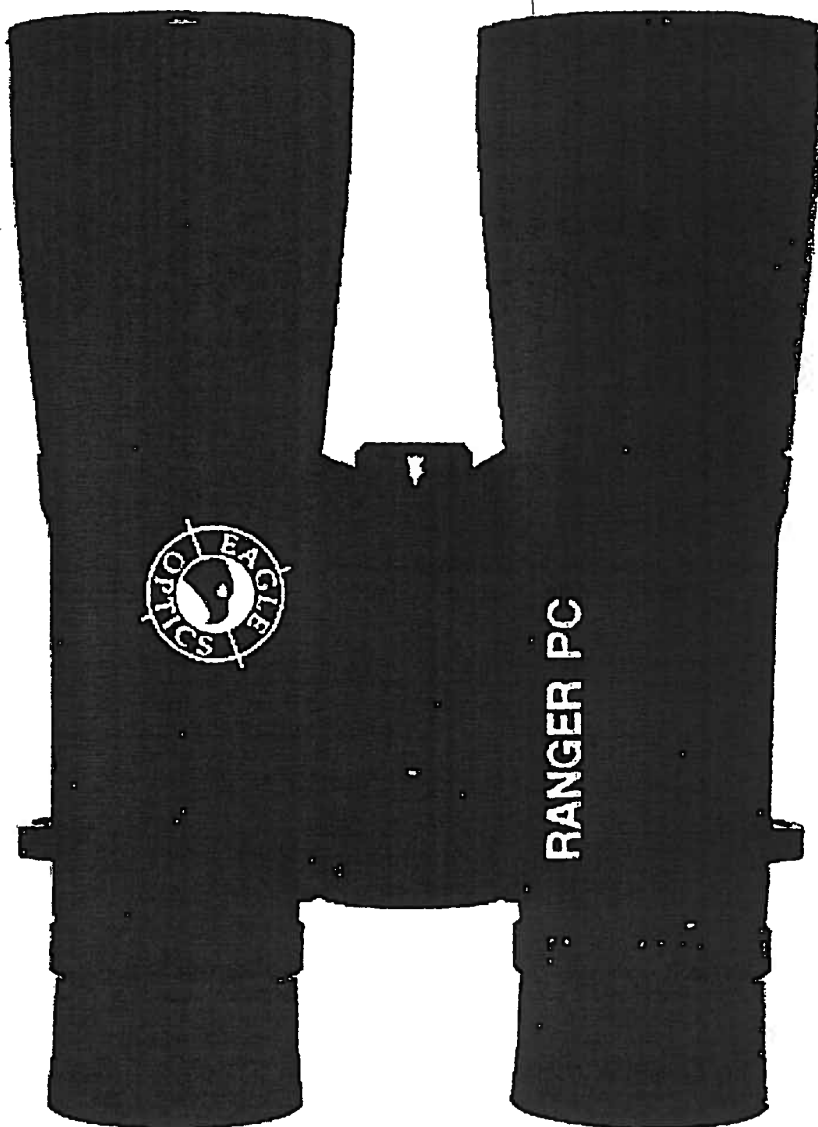
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CONSENT AGREEMENT

This CONSENT AGREEMENT is made by and between **SHELTERED WINGS, INC.**, a Wisconsin corporation, with a business address of 2120 W. Greenview Drive #4, Middleton, Wisconsin 53562, U.S.A. [hereinafter "the Applicant"], and **NIKON CORPORATION**, a Japanese corporation, with a business address of 2-3, Marunouchi 3-Chome, Chiyoda-ku, Tokyo 100, Japan [hereinafter "the Registrant"].

WHEREAS, the Applicant has used the words "**EAGLE OPTICS**" as a service mark for mail order services in the field of optical products and has applied to register said words in the United States Patent and Trademark Office as a trademark for "binoculars, spotting scopes, and telescopes, all for use in bird watching, and storage cases therefor", in Int'l. Class 9, Application Ser. No. 78/029,311, filed October 5, 2000, with an alleged date of first use of January 1, 1996; and

WHEREAS, the Registrant owns the trademark "**EAGLEVIEW**" in the United States of America, and has registered said trademark under Reg. No. 2,084,361, dated July 29, 1997, in respect of "binoculars" in Int'l. Class 9, with an alleged date of first use of November 30, 1996; and

WHEREAS, the Registrant's registration of the trademark "**EAGLEVIEW**" has been cited by a United States Patent and Trademark Office Examining Attorney as a bar to registration of the Applicant's trademark "**EAGLE OPTICS**"; and

WHEREAS, the parties believe that as a result of the differences in meaning and commercial impression of their respective trademarks, the differences in commercial identities of the respective companies, and the history of co-existence of the respective trademarks in the U.S.

marketplace, said marks can continue to co-exist in the marketplace and should be allowed to co-exist on the U.S. trademark register, subject to the following terms and conditions;

NOW, THEREFORE, the parties hereby agree as follows:

1) The Applicant acknowledges that the Registrant is the owner of the trademark "EAGLEVIEW" for the goods set forth in the aforementioned U.S. trademark registration owned by the Registrant, and the Applicant agrees to refrain from taking any action or filing any proceeding, legal or otherwise, that will hinder the Registrant in its use or registration of the word "EAGLEVIEW" as, or as part of, a trademark for said goods, or any other goods or services.

2) The Registrant agrees to refrain from taking any action or filing any proceeding, legal or otherwise, that will hinder the Applicant in its use or registration of the trademark "EAGLE OPTICS" in conjunction with "binoculars, spotting scopes, and telescopes, all for use in bird watching, and storage cases therefor", or for related bird watching and outdoor products, unless said trademark is abandoned by the Applicant. The Registrant further acknowledges the right of the Applicant to continue its use of the words "EAGLE OPTICS" as a service mark for mail order and/or retail services in the field of bird watching and outdoor products, and optical products, as long as said words are not used in any manner which is likely to suggest that the Applicant is sponsored by the Registrant or is more than an independent re-seller and authorized dealer in the Registrant's goods.

3) The Applicant shall be entitled to file a copy of this agreement in the United States Patent and Trademark Office as evidence of the Registrant's affirmative consent to registration of the Applicant's trademark "EAGLE OPTICS" for the goods set forth in Paragraph No. 2, *supra*.

4) Simultaneously with the execution of this agreement, the Applicant will make a payment to the Registrant of \$ 4750.00. The Applicant shall bear its own costs and attorneys' fees relating to the negotiation, execution and performance of the agreement.

5) This agreement shall be effective solely in the United States of America.

6) This agreement may not be amended or terminated except by an instrument in writing, signed by both parties hereto.

7) This agreement shall inure to the benefit of and be binding upon the successors, related companies and assigns of the parties hereto.

8) This agreement does not create a partnership or joint venture between the parties hereto.

9) In the event that any trade or consumer confusion caused by the permitted use or registration of the aforementioned trademarks is brought to the attention of either of the parties hereto, they shall promptly consult with one another and take whatever steps may be reasonably necessary or desirable, and mutually agreeable, to prevent any further occurrence of confusion.

WHEREFORE, the parties have caused this agreement to be executed by their duly-authorized undersigned officers.

SHELTERED WINGS, INC.

By 

Print Name: DANIEL C. HAVEL

Title: PRESIDENT

Dated: 7/7/2003

NIKON CORPORATION

By 

Print Name: TAKAO WATANABE

Title: Executive Officer Vice-President

Dated: 2 July 2003



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EAGLEVIEW ZOOM



EAGLEVIEW ZOOM 8-24x25 CF (Photo:Silver)



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| Key Features

- Unique zoom lever designed for extra-smooth 8-24x zooming
- Turn-and-slide rubber eyecups for easy positioning of eyes at the correct eyepoint
- Multilayer-coated lenses for bright images
- Carbon fibre material in parts of the grip enhance durability
- Designed for comfortable fit and easy handling
- Compact and lightweight
- Parts contain eco-friendly materials
- Available in two body colours (silver/black)



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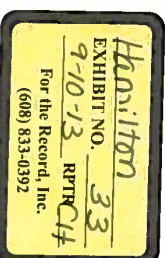
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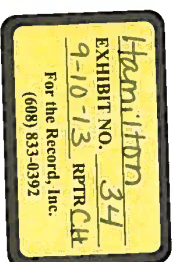
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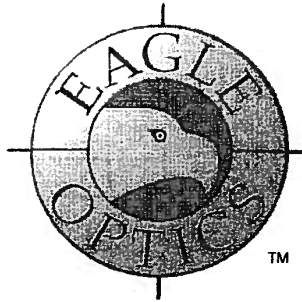
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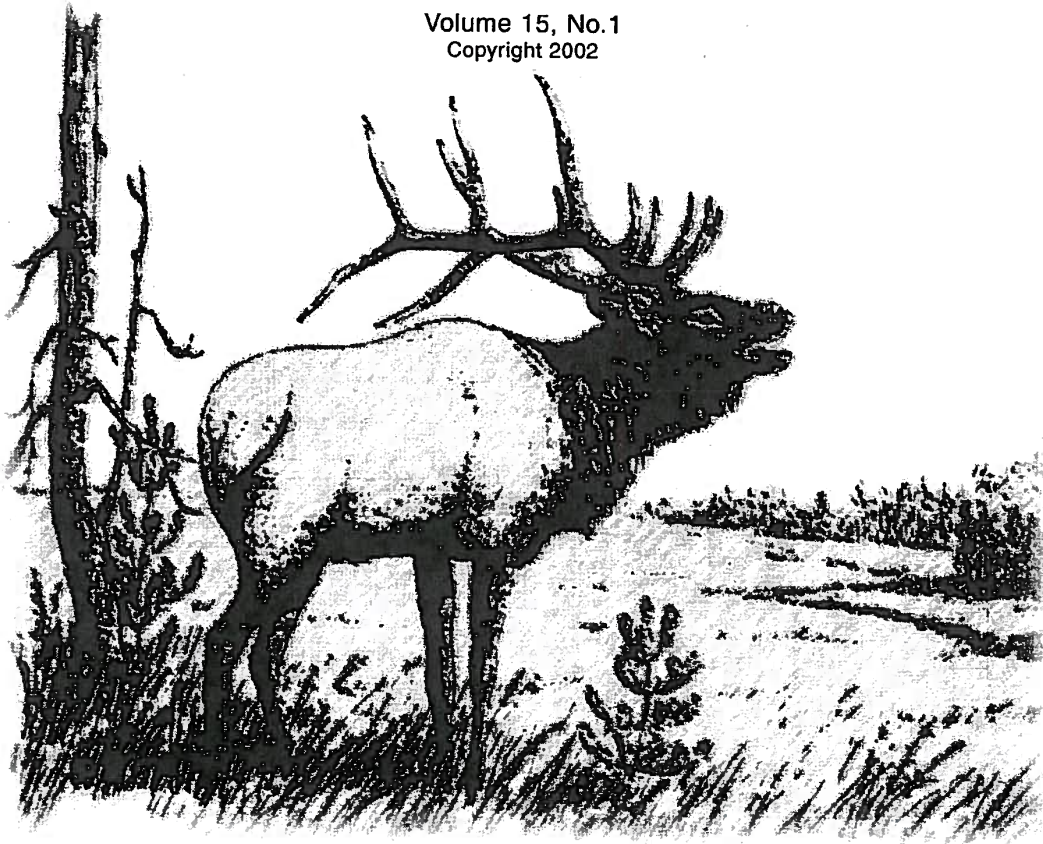
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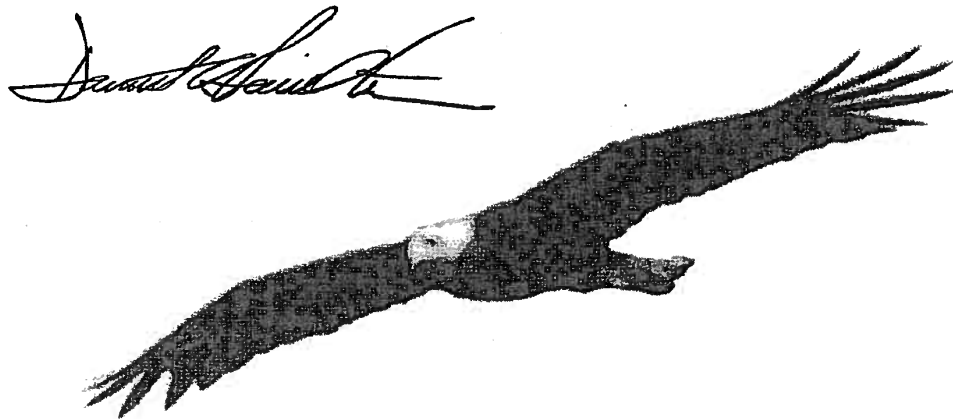
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Thank you for supporting the people of Eagle Optics.

Dan Hamilton,
President and owner, Eagle Optics



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GUIDE TO HUNTING OPTICS

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EAGLE OPTICS GUIDE TO HUNTING BINOCULARS AND SPOTTING SCOPES

By Paul Neess

Any hunter who has spent much time in a deer stand, climbing the Rockies searching for elk, or even calling turkeys in a spring forest is aware that using binoculars and spotting scopes can



improve his odds of success as well as simply increase his enjoyment of the outdoor experience. Properly using optics will open your eyes to animals and scenery you may have never noticed otherwise. Unfortunately, the decision to buy a binocular or scope can be very difficult when presented with the huge array of possible choices available. Here at Eagle Optics our staff takes great pride in our expertise related to binoculars and spotting scopes. Our aim is to give you the best possible advice, so you can choose optics that really do fit your needs.

Even the most knowledgeable hunter may not fully understand all the terminology typically used when describing optics. This guide will cover terms and options available in binoculars, spotting scopes, rangefinders and other accessories--all geared to you, the hunter, because you do have particular needs in an optic. As you go through our guide, I'll address these issues and make your choice an easier one.

PAUL'S POINTERS

● Most hunters, sadly enough, put their optical equipment fairly low on the gear list, devoting great time and energy to the purchase of a new rifle or clothing, but buy their optics as an afterthought. This really is a mistake. Most professional guides and outfitters would sooner give up almost any other item of gear rather than their optics! On a western hunt, for example, no item of your equipment may be more important.

● Besides locating game and identifying trophy size, binoculars and spotting scopes can be used year round, including activities like pre-season scouting, bird watching, and sporting events. Or, for simply enjoying all the wonderful sights of the outdoors. Almost any outdoor activity can be enhanced by having a binocular handy. Good optical equipment can be a lifetime purchase, and will provide you years of pleasure.

PRODUCT DESCRIPTIONS

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BINOCULAR DESIGN

WHAT DO THE NUMBERS IN A BINOCULAR'S NAME REFER TO?

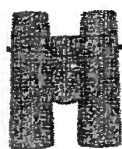
Let's take an 8x42 binocular as an example. The first number (8) refers to the magnification, or, how many times closer an object will appear. The second number (42) indicates the diameter of the objective lens. The diameter of the objective lens (the light-gathering lens) is directly related to the size of the binocular -- the larger the objective lens, the brighter (and larger) the binocular.

HOW MUCH MAGNIFICATION DO YOU NEED?

Higher magnifications (like 10x) will give you more detail, but are more difficult to hold steady and have narrower fields of view. Many people choose to use 10x binoculars, but they are deciding that image size and detail is of greater importance to them. The most popular binoculars are lower magnifications (like 8x) as they have wider fields of view and steadier images. A wider field of view is important when trying to follow fast-moving action, like game on the move.

HOW DO BINOCULARS VARY IN DESIGN?

Binoculars use image-erecting prisms to provide correctly oriented images. The size, design and quality of the prisms affect what you see and how clearly an image appears across your viewing area.



ROOF PRISM

Roof Prism models will deliver more durability but you will need to spend more money to get good optical quality in this design.



PORRO PRISM

Porro Prism models will deliver the best optics for the dollar, but lack the durability and compact styling of roof prism models.

WHAT SIZE BINOCULAR DO YOU PREFER?

Full-size binoculars (like 8x42) offer the greatest light gathering ability and overall optical performance, but they are also full-size binoculars. Compact binoculars (like 8x25) are more portable than full-size models and work well during daylight hours but not during twilight or in deep shadows.

DO YOUR BINOCULARS NEED TO BE WATERPROOF?

Binoculars are used in the field, and if you plan on extended use in bad weather or if the binocular could be submerged, then waterproofing is suggested. Waterproof optics are literally submersible and any water damage would be handled under the manufacturer's warranty. If waterproofing isn't necessary, then you can find good optical quality at considerably lower prices.

BINOCULAR DESIGN

WHAT IS THE FIELD OF VIEW?

When you look through your binoculars, the widest dimension you can see is known as the field of view.

A wide-field binocular is desirable for observing at close quarters in deep woods or picking up fast moving game. Field of view decreases as magnification increases.



*Standard
Field of View*



*Wide
Field of View*

WHAT ABOUT LIGHT TRANSMISSION AND OPTICAL COATINGS?

Light transmission describes the percentage of available light that passes through your binocular, and can be increased by incorporating anti-reflective coatings. When an anti-reflective coating is applied to a glass surface it increases the amount of light that reaches your eye. The more complete and complex the coating scheme, the brighter and sharper the binocular will be. Better coatings allow more light to reach your eye, improving brightness and overall optical performance.

WHAT ABOUT LIGHT GATHERING ABILITY?

Your eye is uniquely designed to gather more or less light as conditions change, but your binocular is not. Since the light gathering ability of a binocular is fixed, it is important to select a model that best meets your eye's need for light as viewing conditions grow darker. The exit pupil is the magnified image in the eyepiece as it leaves the binocular to enter your eye and is an indicator of how well you will see an image on a bright day, at twilight or at night. Almost all binoculars gather more light than is needed by your eye when viewing in bright conditions. For the best viewing at twilight, you'll want a binocular with a minimum exit pupil of 4mm.

DETERMINING THE EXIT PUPIL

To determine a binocular's exit pupil, simply divide the objective lens by the magnification. If we use an 8x42 as an example, 42mm divided by 8 gives us an exit pupil of 5.25mm. This tells us that an 8x42 is a good configuration for low-light viewing. In contrast, if we look at an 8x25, we find that 25mm divided by 8 leaves us an exit pupil of only 3.12mm. This means that an 8x25 will give sufficient brightness for daytime viewing, but the image will not be as bright as you would like at dawn and dusk.

WILL YOU WEAR EYEGLASSES OR SUNGLASSES?

Many models of binoculars will allow you to view in comfort while wearing eyeglasses. If want to use binoculars with eyeglasses or sunglasses, look for those that offer at least 15mm of eye relief. Eye relief refers to the distance images are projected from the ocular lens to their focal point and can vary from 5mm to 23mm. Without proper eye relief, the eyeglass wearer will not see the full field of view.

GUIDE TO HUNTING OPTICS

Tips

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When you begin to look at your choices, it's important to understand the basic terminology of optics. You'll be in a better position to choose the design that gives you the features you need for the hunting you do.

PRISM DESIGN

Binoculars will fall into two basic types, either **roof prism** or **Porro prism** design, depending upon their internal prism construction. Porro prism binoculars are the traditional, old-time appearing binos with staggered lenses. Roof prism models have a more modern appearance, using straight optical barrels from the eyepiece to objective lens.

Note: Although less expensive, Porro prism models are not usually waterproof and will be more fragile under hard use than a roof prism binocular.

MAGNIFICATION

It is also important to understand the numbers you see listed for a binocular. For example, look at the 8x42, a common size in binoculars. The first number (8) refers to the **magnification**. The magnification describes how many times the object being viewed is enlarged compared to your naked eye's vision. 8x is probably the most popular all-around choice in binocular magnification.

Note: A 10x binocular will give you more detail at long distance, but will also give you a narrower field of view. Many people find it more difficult to hold steady, too. However, if you do most of your glassing at long distances, 10x may be the better choice for you.

OBJECTIVE LENS

The second number (42) indicates the **diameter of the objective lens**, or, the lens on the far end of the bino. As well as giving you an idea of physical size (bigger number, bigger bino), this number relates to brightness. The larger the objective lens, the more light enters the binocular or spotting scope.

Note: Your eye looks through the **ocular lens** of a binocular.

FIELD OF VIEW

The size of the objective lens does not relate to the **field of view**, as is commonly believed. Field of view (a measurement indicating how much you see through your binocular) will be most affected by the magnification. Optics with a higher magnification almost always come with a narrower field than those with a lower magnification. You'll see field of view listed in one of two ways. The number "x" on your binocular means the viewing field is that many feet wide at a distance of 1000 yards. The field of view is sometimes listed as "x" amount of degrees.

Note: One degree is equivalent to 52.5 feet at 1000 yards. If you want to compare the field of view of a binocular listed in degrees to one listed in feet, simply multiply the degree number by 52.5 and then you'll have a direct comparison.

Eye Relief

One last number you should understand is **eye relief**. This number tells you the distance your eye can be back away from the actual lens surface and, yet, still see the whole field of view. This is important if you wear eyeglasses while using binos or spotting scopes because eyeglasses will keep your eyes back a little from the binocular lens. An eyeglass wearer should look for eye relief greater than 15mm (this distance will enable you to see the whole field of view).

GUIDE TO HUNTING OPTICS

Tips

OPTICS
FOR
HUNTERS



Some of the best values for today's hunter exist in the mid-priced roof prism glasses. In my opinion, these are the bins that will do the best job for most hunters. I believe waterproofing should be a must in a hunting binocular, and most of the mid-priced roof prism glasses will offer that feature. While you can buy sharper optics in a similarly priced Porro prism model, their fragility, bulkiness and common lack of waterproofing will most often rule them out.

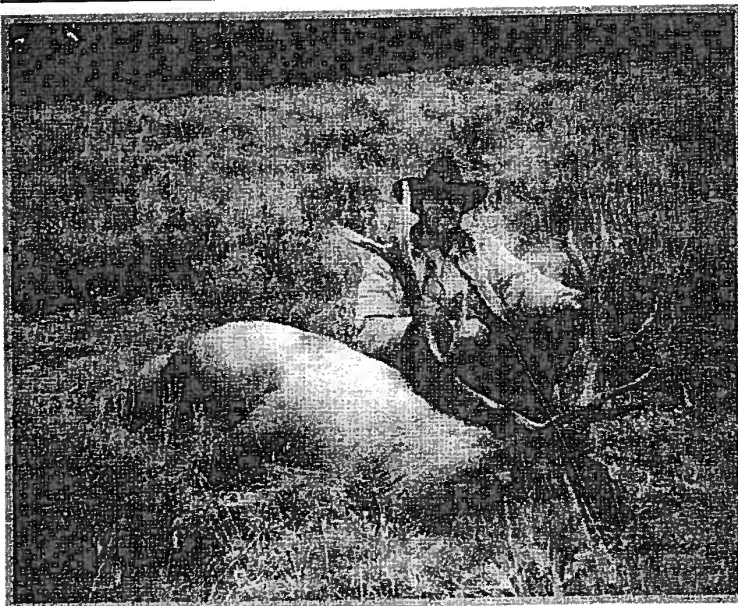
Binoculars with features such as phase correction (coatings to improve brightness, color and resolution), heavy rubber armor, rugged assembly, and nitrogen purging were formerly available only in high priced European optics, but can now be purchased in the \$300 - \$500 price range. There are a few decent roof prism models under \$300, but you may have to sacrifice desirable features like the phase correction coatings, an internal focus mechanism, or the waterproof protection of a nitrogen purged binocular. Buying binoculars in the \$50 - \$150 range will limit you to the Porro prism models. These will still give you nice sharp optics, but you'll have to accept the fact that they'll probably *not* be waterproof and will be relatively fragile.

Note: Some Porro prism models on the market are only available with an individual eyepiece focus mechanism. These are not as versatile as a center focus (which uses one center knob to quickly focus both eyepieces simultaneously), but will work fine if you do most of your glassing at a single distance.

PAUL'S POINTERS

● I do feel most hunters will be best served by purchasing full- or mid-size glasses rather than the small compacts that use 20-25 mm objective lenses. There is nothing wrong with owning a small compact, but it should not be your primary hunting glass.

● I would also advise most hunters to stay away from the zoom type binoculars. Although the idea is appealing, in real life they really don't work all that well. They are almost impossible to hold steady at higher magnifications, are somewhat fragile, and have extremely narrow fields of view relative to a similarly priced fixed power model.



EAGLE OPTICS

OPTIC OUTFITTERS

YOUR SOURCE FOR FINE OPTICS



Paul Neess, of the Eagle Optics staff, is also a professional Idaho hunting guide.

For personalized assistance, call 800-289-1132 or visit us at www.eagleoptics.com.

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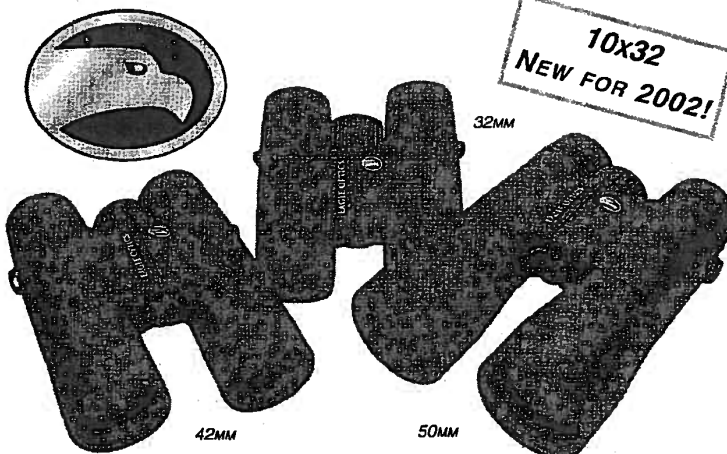
RANGER PLATINUM CLASSTM

Eagle Optics RANGER PLATINUM CLASS binoculars present a tremendous value to anyone looking for a lifetime of dependable service and superior optical performance. You'll find premium optics in a durable, waterproof body that is literally submersible. Fully phase corrected roof prisms improve overall image quality, so that colors appear richer and more realistic.

Lighter weight and more comfortable ergonomics make the RANGER PLATINUM CLASS binoculars ideal for long days of extended viewing. Put one in your hand and you'll feel the difference.

Supplied with case, neck strap, rainguard, tethered objective lens caps, and the PLATINUM PROTECTION lifetime warranty.

EYE RELIEF	FIELD OF VIEW	NEAR VIEW	NEAR FOCUS	WEIGHT
6x32	19.5mm	409'	3.0'	18.5oz
8x32	16.0mm	393'	3.0'	18.5oz
10x32	15.0mm	314'	3.0'	18.5oz
8x42	19.5mm	341'	5.2'	22.9oz
10x42	16.0mm	314'	5.2'	22.9oz
10x50	20.0mm	262'	8.0'	27.0oz
12x50	15.5mm	251'	8.0'	27.7oz



PLATINUM PROTECTION

If any Eagle Optics RANGER PLATINUM CLASS binocular is found to have defects in workmanship or materials, Eagle Optics will repair or replace it. No warranty card is necessary. No time limit applies. The guarantee is transferable, it applies whether you are the original purchaser or not.

At Eagle Optics, we are dedicated to total customer satisfaction. If your RANGER PLATINUM CLASS binocular requires service or repair NOT covered by our lifetime guarantee, Eagle Optics will repair or replace it, regardless of who is at fault, for just \$20 plus return shipping and handling.



Working in the optics business and also as a professional hunting guide, I have had the opportunity over the years to handle a good many binoculars. I strongly feel the Eagle Optics Platinum Ranger series of binos offer exceptional value to todays hunter. Protected by an unbeatable lifetime warranty, these tough, waterproof roof prism binoculars will give many, many years of service for a reasonable cost. They are available in several different sizes, to accomodate everything from close-range bowhunting to long distance western glassing. I have many times recommended these to friends in the guiding and outfitting industry who don't have a great deal of money to spend, yet need optics to perform at high levels and be reliable in any weather condition.

Good hunting!
Paul Neess



Professional hunting guide and Eagle Optics staff member Paul Neess glassing for elk in the Central Idaho Rockies.



EAGLE OPTICS
RANGER™
PLATINUM CLASS

QUALITY
YOU'VE COME TO
EXPECT,
AT A PRICE YOU
WON'T BELIEVE!

RANGER PLATINUM CLASS 32MM
 DIMENSIONS: 4.9" x 4.8"

A 32mm binocular will go anywhere you go! Stuffed into a daypack, you'll forget it's there—until you need it, that is!

6x32 RANGER PLATINUM CLASS
 Nothing else on the market comes close to this for great optics, light weight and close focus. It is one of the best binoculars available for bow hunters, combining bright images with a whopping 409' field of view and an astounding close focus of just three feet! For hunters, the bright images (from dawn through dusk) and large field of view make it easy to find and follow fast moving game. Many people find that, when stability is an issue, the lower 6x magnification helps them resolve more detail.

8x32 RANGER PLATINUM CLASS
 Observe animals at close range from your tree stand. If you desire a smaller binocular that doesn't sacrifice image quality, this is for you!

10x32 RANGER PLATINUM CLASS
 This is an excellent high-power binocular that provides you with crisp images at long ranges. This superb compact binocular is easy to use, even with gloves on!

Note: Except during the first and last 30 minutes of the day, the 32mm models will offer images comparable in brightness to what you'd see through larger 42mm models. Even then, the 8x32 and 10x32 models will deliver only slightly reduced resolution and contrast.

RANGER PLATINUM CLASS FEATURES

*Phase corrected
 BaK4 Roof prisms
 Fully multi-coated optics
 (allow over 95% transmission of light to your eye)
 Waterproof
 Nitrogen purged to prevent interior fogging of lenses
 Twist-and-Lock eyecups provide full field of view to eyeglass wearers
 Protective rubber armor around housing
 Tripod adaptable*

RANGER PLATINUM CLASS 42MM
 DIMENSIONS: 5.75" x 5.1"

RANGER PLATINUM CLASS 8x42
 The 8x42 is the most popular binocular in the **RANGER PLATINUM CLASS** line-up, as it offers excellent brightness in low-light situations, a good field of view for following moving game, and an easy-to-manage size and weight. If you're looking for a binocular that is capable of dealing with a wide variety situations and environments - the Eagle Optics **8x42 RANGER PLATINUM CLASS** offers the best "all-around" performance. This is a binocular that will deliver bright images from dawn to dusk, woods to shore, in rain or shine.

RANGER PLATINUM CLASS 10x42
 This, our second-most popular model, is the lightest weight phase corrected 10x42 roof prism on the market today. It comes highly recommended for hunters in open terrain, such as fields and mountains. Distant wildlife will appear 25% closer through the 10x42 than through the 8x42 though you will sacrifice some of your field of view.

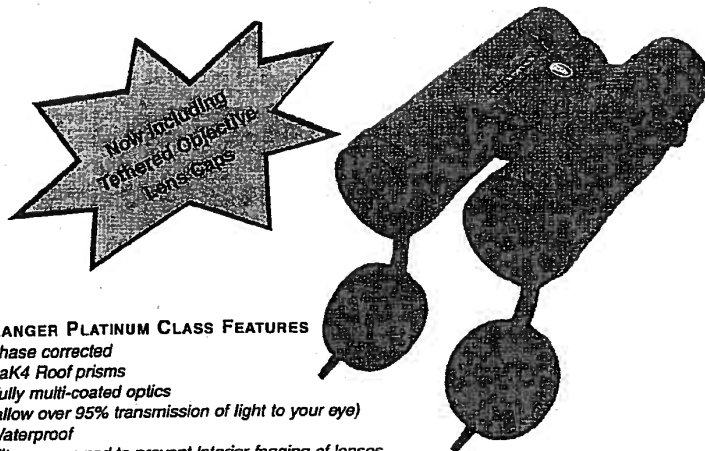
RANGER PLATINUM CLASS 50MM
 DIMENSIONS: 6.7" x 5.2"

RANGER PLATINUM CLASS 10x50
 The **10x50 RANGER PLATINUM CLASS** will impress you with its weight. At only 27 ounces it is incredibly light for a binocular with a 50mm objective lens. It is both bright and powerful, recommended for long distance hunting.

For hunters who don't mind a little extra size, the 10x50 has 19% more surface area for gathering light than the 10x42 model. This can make a real difference when distinguishing trophy antlers in the pale light of dawn and dusk. The 10x50 will deliver as great a view of distant animals on a mountainside as it will the wildlife just outside your window.

RANGER PLATINUM CLASS 12x50
 Rounding out the **RANGER PLATINUM CLASS** series is this highly specialized binocular, ideal for Western big game hunters who need the extra magnification. This 12x50 helps pull in fine detail by increasing the power by 20% over the 10x50 model - a real advantage when trying to glass animals that could be miles away.

Even the 12x50 model can focus down to eight feet, and there aren't many binoculars that give you a clear view of everything from deer under your tree stand to elk two miles away.



RAPTORSTM

Take the Eagle Optics RAPTOR out in any kind of weather for bright views and tight resolution. The RAPTOR's excellent optics, extremely wide field, good close focus, and reasonable price make it a popular choice for hunters purchasing their first "serious" binoculars.

Supplied with day-pack style case, neck strap, lens covers, lifetime limited warranty and the **EAGLE ADVANTAGE** certificate! (See text box).

DIMENSIONS: 5.2" x 7.6"

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x42	17mm	462'	11.5'	27.0oz
10x42	17mm	344'	13.0'	26.3oz

8x42 RAPTOR

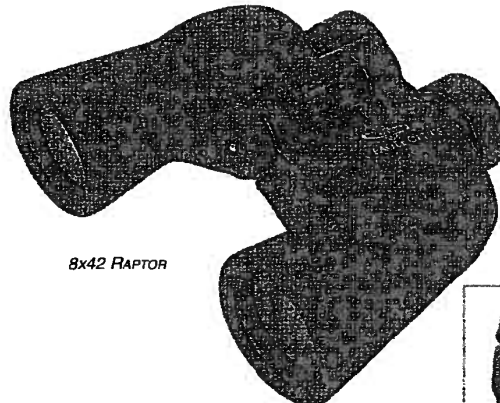
The 8x42 RAPTOR is an exciting addition to the Eagle Optics roster. Sharp images and high resolution, coupled with one of the widest fields of view available, set it apart from other models. Outdoor enthusiasts and sports spectators will appreciate this amazing binocular.

10x42 RAPTOR

The 10x42 RAPTOR gives you the magnification you need when viewing at longer distances, yet it maintains a wide field of view. It is also unique, delivering very crisp images in a fully waterproof Porro prism design.

EAGLE OPTICS LENS PEN

See details on page 45.



8x42 RAPTOR

EAGLE OPTICS RAPTOR FEATURES

High density, BaK-4 Porro prisms
Fully multi-coated lenses
Waterproof
Nitrogen purged to prevent interior fogging
Pop-and Lock retractable eyecups
Magnesium body is strong yet lightweight
Rubber armoring provides no-slip grip



Day-pack style case.

THE EAGLE ADVANTAGE!

At Eagle Optics, we are dedicated to total customer satisfaction. We know that sometimes accidents happen, and your binocular may suffer some minor (or major) damage. For this reason, we created the EAGLE ADVANTAGE!

The EAGLE ADVANTAGE allows you, the customer, one opportunity to have your binocular serviced, regardless of the extent of the repair or the cause of the damage. Just return the damaged binocular to Eagle Optics and, for only \$20 (plus shipping and handling), you can have them repaired or replaced one time only using the EAGLE ADVANTAGE certificate included with the purchase of your Eagle Optics VOYAGER, EXPLORER, or RAPTOR binocular.



WILD BIRDS UNLIMITED AND EAGLE OPTICS

We get many phone calls regarding Eagle Optics products. One of the most common questions is, "Where can I see these binoculars locally?" To help you in your search for the perfect binocular, we are now partnering with almost 300 Wild Birds Unlimited stores throughout North America. These stores are proud to be authorized dealers of Eagle Optics RANGER PLATINUM CLASS, RAPTOR, EXPLORER and VOYAGER binoculars. Visit the store nearest you and see which Eagle Optics binocular suits you best.



To find your nearest Wild Birds Unlimited, call 800-326-4WBU, or visit www.wbu.com.

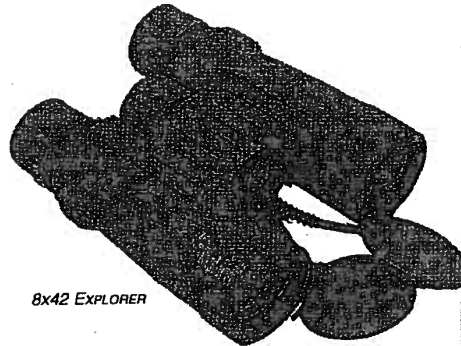


EXPLORERS

The **EAGLE OPTICS EXPLORER** series raises the bar for value and performance at a moderate price. You'll find these binoculars are well-suited to exploring in a variety of situations. Lightweight and comfortable in the hand, they fill the needs of outdoor enthusiasts requiring a durable binocular of sound construction.

Supplied with case, neck strap, objective lens covers and ocular covers. Includes limited lifetime warranty and the **EAGLE ADVANTAGE** certificate as described on page 10.

8x42 EXPLORER



High density BaK-4 Roof prisms
Fully coated lenses
Waterproof
Nitrogen-purged
(prevents interior fogging)
Rubber armoring for sound handling
Retractable eyecups
(accommodates eyeglasses)

EYE RELIEF VIEW	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x42	21.5mm	315'	18" 23.4oz
10x42	16.0mm	315'	18" 23.4oz

8x42 EXPLORER

If you're looking for a lightweight, durable 8x42 for hunting or general nature observation but don't want to spend over \$200, consider the **8x42 EXPLORER**. This binocular is an extremely durable binocular with sound construction, rubber armored for a sound grip, O-ring sealed and nitrogen-purged to render it waterproof and internally fogproof. This is a binocular that can handle your abuse.

The **8x42 EXPLORER** is no slouch optically. You'll find that it provides sharp images at all times of day. The 8x42 offers ample eye relief so you get the full field of view whether or not you wear eyeglasses.

DIMENSIONS: 6.1" x 4.9"

10x42 EXPLORER

The **10x42 EXPLORER** is useful for longer-range observation (open country). It offers enough eye relief for eyeglass wearers as well. Like its 8x42 counterpart, the **10x42 EXPLORER** is a very durable yet lightweight binocular. This binocular can take the abuse you give it!

DIMENSIONS: 5.9" x 5.0"

"ELM Outfitting & Guide Training has been training big game hunting guides for 43 years and we have been working with Eagle Optics for the last several years. What impressed us most from the start was the friendly reception, knowledgeable sales personnel and great service we received!

Many of our students are in need of quality binoculars or spotting scopes and Eagle Optics has done a great job for them! Giving them straight answers to all of their questions and matching them with just the right optics for their individual needs.

I feel that a good set of optics is one of the most important pieces of equipment that a hunting guide can carry with them into the field. It can make the difference between success or not, and should never be overlooked. In my book, Eagle Optics is second to none. I personally recommend them for all optics needs, whether you are a big game hunting guide, hunter or outdoors enthusiast."

Michael Knott
ELM Outfitting & Guide Training, Inc.



8x22 EXPLORER

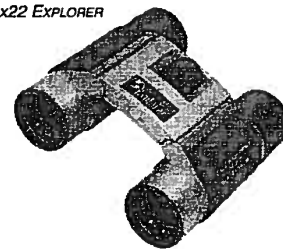
The compact, lightweight binocular to slip into a pocket, pack or purse as you hike or travel. If you're looking for a small, inexpensive secondary binocular to store in the car, take to the theater or sporting events then the **8x22 EXPLORER** is the right binocular for you.

The **8x22 EXPLORER** excels for backyard bird watchers and casual viewing. It also makes a great choice for the young naturalist.

DIMENSIONS: 3.8" x 2.6"

EYE RELIEF VIEW	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x22	10mm	370'	6.6" 7.76oz

8x22 EXPLORER

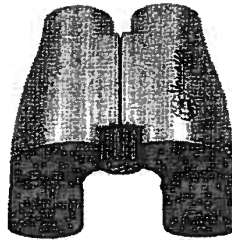


A compact binocular, like the **8x22 EXPLORER**, may be all you need for enjoying the activities around you—especially on sunny days.

VOYAGERS

The **EAGLE OPTICS VOYAGER** compacts are a good fit for hunters, hikers, travelers, sports and theatre enthusiasts -- anyone who prefers to carry a small binocular along on their adventures. The VOYAGERS feature large enough objective lenses to provide bright, sharp images while still being compact and lightweight.

Supplied with case, neck strap, objective lens covers and ocular covers. Includes limited lifetime warranty and the EAGLE ADVANTAGE certificate as described on page 10.



25MM VOYAGER
3.4" x 4.3"

8x25 VOYAGER

The 8x25 VOYAGER works well for all-around hunting and nature observation thanks to its bright image, great feel in the hand, and sensible price tag. It is a great compact for older hunters wanting a steady glass as well as for younger hunters with smaller hands.

10x25 VOYAGER

The 10x25 VOYAGER is more useful for longer distance viewing, such as glassing the next mountainside. The 10x magnification will help bring in the fine detail on those animals that won't allow for closer viewing.

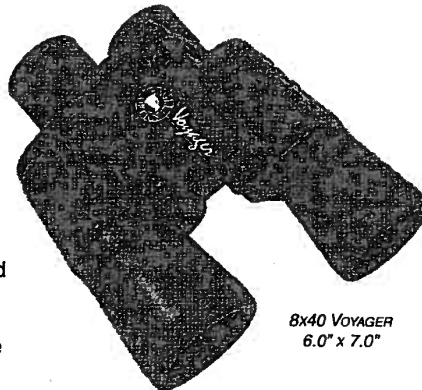
	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x25	18mm	330'	8.2'	9.9oz
10x25	18mm	262'	8.2'	9.5oz

The compact VOYAGERS are great tools for learning about all that the outdoors has to offer. These reverse Porro prism models come with twist-up rubber coated eyecups and more than ample eye relief for those wearing sunglasses or eyeglasses.

8x40 VOYAGER

Lightweight and durable, the 8x40 VOYAGER it offers a very pleasing optical image. The 8x40 is a great first binocular and can be enjoyed by hunters of any age. Achromatic lenses are multi-coated for sharp resolution and clear images.

Supplied with case, neck strap, objective lens covers and ocular covers. Includes a limited lifetime warranty and the EAGLE ADVANTAGE certificate as described on page 10.



8x40 VOYAGER
6.0" x 7.0"

"I received my binoculars one week after mailing in my order. Most excellent service. The price was good also. This is my third order with your company and every one of them has been a pleasant experience. Old fashioned, excellent service. Thanks again"

~Actual Customer Quote

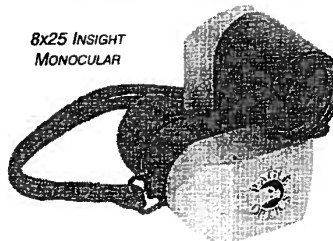
	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x40	12mm	330'	16'	17.8oz

A lightweight fiberglass housing protects the optics.

8x25 INSIGHT MONOCULAR

The **new** 8x25 EAGLE OPTICS INSIGHT MONOCULAR is compact, light weight, and inexpensive. It's a great tool for hikers, sports fans, travelers, birders and hunters. Anyone with a love of the outdoors will appreciate this pocket-sized monocular, designed to bring them closer to the action without straining their necks or daypacks with extra weight.

8x25 INSIGHT
MONOCULAR



	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x25	16mm	345'	12'	4.0oz

EAGLE OPTICS BINO-SYSTEM HARNESS
Use your shoulders instead of your neck to support the weight of your binoculars. Keeps your binocular secure while on the move, yet readily available. Details on page 45.





KONUS



Eagle Optics is pleased to offer the **Konus** refractor and reflector telescopes, perfect for both the budding astronomer and the seasoned stargazer!

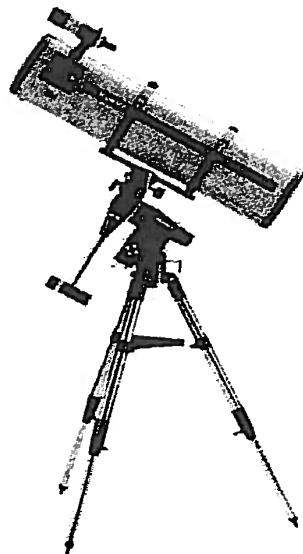


KonusMotor 114

The KonusMotor 114 is a Newtonian 4.5" reflector that provides both excellent deep sky viewing and great planetary images.

Reflecting scopes of this size and quality are the most recommended for folks considering getting themselves and their family into astronomy. The KonusMotor 114 is our most popular telescope and will open new worlds and ideas for people of all ages. This scope is easy and fun to use. The KonusMotor 114 comes with a solid equatorial tripod mount and also includes a clock drive to compensate for the rotation of earth while you are viewing.

The KonusMotor 114 comes with two 1.25" Plossl eyepieces, a 17mm (53x magnification) and a 10mm (90x magnification). It also comes with a lunar filter to improve contrast on the features of the moon. **\$258.00**



KonusMotor 90

Get yourself a telescope that is built to last and comes packaged with quality accessories. The KonusMotor 90 has excellent optics, a solid equatorial tripod mount and also includes a clock drive to compensate for the rotation of earth while you are viewing. This is a tremendous scope and a tremendous value and will give you pleasing views of the moon, Jupiter, and Saturn.

The KonusMotor 90 comes with two 1.25" Plossl eyepieces, 17mm (54x magnification) and 10mm (91x magnification), and comes with a lunar filter to improve contrast on the features of the moon. **\$298.00**



Konus Newtonian 200

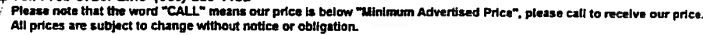
Advanced 8" reflector telescope for quality deep sky viewing. This telescope comes fully equipped for advanced astronomy. Features include coated primary mirror, metal tube assembly, precision heavy-duty advanced equatorial mount "Super Polar Evolution" with motor for both axes, a 6x20 polar scope, and a sturdy adjustable metal tripod. Also includes an achromatic 9x50 finderscope, two Plossl eyepieces (25mm and 10mm for 40x and 100x magnification, respectively), a moon filter and operational and mounting instructions.

\$788.00

For more information, or to place an order, call **1-800-289-1132** today!

All prices subject to change without notice or obligation.

SW01550

SW01551

Optics for the Tropics

Providing Quality Optics for Bird Conservation in the Caribbean

In North America we often take for granted the ease of obtaining resources needed for fieldwork. In many of our neighboring islands of the Caribbean those resources are difficult to acquire, if not impossible. Although we share migrant bird populations with areas such as the Dominican Republic, Cuba, and the Bahamas, monitoring and management strategies are much better funded in the U.S.

Migratory birds do not recognize political boundaries; they follow the path embedded in their genes, migrating south to the wintering grounds, returning north to the breeding grounds with numerous stopover sites in between. If we want to protect these birds and have them return each spring, we need to recognize the need for international partnerships.



Optics for the Tropics is a partnership between the Southeast working group of Partners in Flight (PIF) and Eagle Optics, with support from the National Fish and Wildlife Foundation, providing quality optical equipment for ornithologists in areas of the Caribbean that don't have access to quality binoculars and research materials for conservation.



You can help bring the back the birds with a donation to this meaningful project. Thanks to Eagle Optics, your contribution will be doubled and will help make a difference in bird conservation. Eagle Optics will match donations, dollar for dollar with inventory.



Binoculars are distributed through an application process for various research, monitoring, or educational projects. Your donation will provide quality binoculars for life-long work on the wintering grounds while forging partnerships between bird conservation efforts in the U.S. and the Caribbean.

Yes, I support the goals of Optics for the Tropics and enclose matching funds in the amount of:
\$_____ for international bird conservation!

Mail to: SE Partners in Flight
Box 357443, Gainesville, FL 32635
www.OpticsfortheTropics.org - (352) 955-6588 - jeni@wild-florida.com

SW01552



Take part in the annual migration!
Come to Harlingen, Texas for one of the
top birding events in the nation

Tour some of the area's world-renowned birding hotspots
such as Bentsen State Park, Laguna Atascosa NWR, Santa Ana NWR,
Sabal Palm Grove, King Ranch and other favorites!

Learn birding tips from such experts as Wayne Petersen, Debi
Shearwater, Dr. David Bird, Kenn Kaufman and many more!

Shop the "Birder's Bazaar" for optics and birding treasures!

Join in the search for South Texas specialties -
Great Kiskadee, Green Jay, Altamira Oriole,
Ringed Kingfisher to name a few!

Get pointers out in the field with world-class birders including
Kim Eckert, Jeff Gordon, Bob Schutsky, Mike Overton,
Oscar Carmona, Michael O'Brien, Louise Zemaitis
and so many others!



HARLINGEN AREA
CHAMBER OF COMMERCE

For more information on the festival and
accommodations in Harlingen, contact
HARLINGEN CHAMBER CONVENTION & VISITORS BUREAU
1-800-531-7346 or www.rgvbirdfest.com

SW01553

BAUSCH & LOMB

Bausch & Lomb has been an industry leader in sports optics for over 50 years. This company aims to develop and market superior optical products that enhance the experience of outdoor and sport enthusiasts. You will find binoculars carrying both the Bushnell (binoculars on page 13) and Bausch & Lomb names are serviced by Bushnell Performance Optics.

ELITE BINOCULARS

The Bausch & Lomb *ELITE* binocular is favored by nature lover's through a combination of quality, ergonomics and desirable features. High resolution and contrast in a binocular designed for comfort and rough field conditions make this lifetime investment a popular choice. Known for its close-focus ability, this binocular will bring you superb views of nearby game as well as distant wildlife. Supplied with a rich leather case, rainguard, and padded nylon neck strap. Covered under B&L's limited lifetime warranty.

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x42	19.5MM	365'	5'	29.0oz
10x42	19.5MM	285'	5'	28.0oz

DISCOVERER BINOCULARS

Bausch & Lomb's *DISCOVERERS* offer solid performance for wildlife observation at a modest price.

The 7x42 *DISCOVERER* is designed for twilight conditions, and heavy forest cover with bright images and wide field of view. It works very well for the eyeglass wearer. The configuration of the 10x42 *DISCOVERER* provides higher magnification for long-range viewing when details are critical.

All *DISCOVERERS* include a padded carrying case, neckstrap, and rainguard. Covered under B&L's limited lifetime warranty.

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
7x42	20MM	420'	10'	28.0oz
10x42	17MM	341'	10'	28.0oz



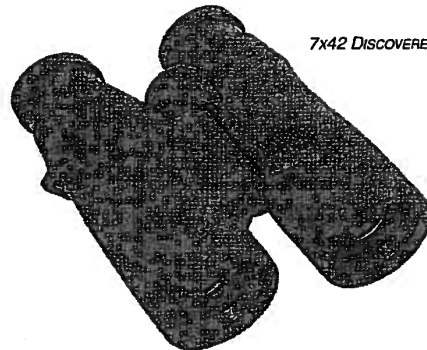
8x42 ELITE

RAINGUARD PROTECTION

RAINGUARD is Bausch & Lomb's exclusive hydrophobic (water-repellent) coating on which condensation from rain, fog or snow forms in much smaller droplets than on standard coatings. Smaller droplets scatter less light which results in increased light transmission and a much clearer image. Now on *Elite* Binoculars!

Phase corrected
BaK4 prism glass
RAINGUARD PROTECTION
Fully multi-coated optics
Waterproof and Nitrogen purged
Rubber armored for shock protection
Click-stop diopter
Secure grip
Long eye relief
Twist-up eyecups

ELITES are available in 8x42 and 10x42 models -- you choose between wider fields and brighter images or higher magnification and more detail.



7x42 DISCOVERER

Phase corrected
BaK4 prisms
Fully multi-coated optics
Waterproof
Nitrogen purged
Rubber armored for shock protection
Easy grip
Long eye relief
Twist-up eyecups.

For those that don't mind heavier binoculars, the *DISCOVERERS* provide wide fields of view in fully-featured roof prism designs.

Tips

OPTICS
FOR
HUNTERS



HOW TO PROPERLY SET THE DIOPTER ON YOUR BINOCULAR

All better quality binoculars will allow you to separately adjust the focus on one eye (usually the right eye). This is done to compensate for differences between your eyes. You should do this initially with your bino (and mark your setting), and then check it every so often to be sure your eyes haven't changed.

Pick a distinctive object to focus on at the approximate distance you do most of your glassing at. Initially, come to a sharp focus on the object (using the center focus) with the diopter-corrected eyepiece side blocked off (or that eye closed).

Once you've got this eye focused as sharply as possible, close it and open your other eye (the one on the diopter-corrected side). Carefully, without moving the center focus, see if you can improve the image sharpness on this eye by slowly moving the diopter adjustment back and forth. Once you've found the setting which gives the sharpest image, mark it and leave it there - you're done. At this point, you simply use the center focus to adjust both eyes while viewing.

BRUNTON

For over a hundred years, the Brunton Company in Riverton, Wyoming has been producing instruments for outdoor enthusiasts.

ETERNA BINOCULARS

No matter what time of day or what the weather may bring, you'll be prepared for great viewing with the ETERNA binoculars. The phase coating provides high contrast views no matter what you choose to watch. That distant elk on the mountainside will appear as sharp as the rock at your feet. Cold rain or snow won't cause them to fog internally.

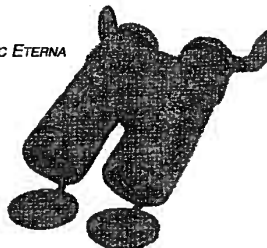
The attached lens protectors block out unwanted lateral light and glare for better viewing. A rugged neoprene BINO-GLOVE™ case fits around the binocular to protect the body from dirt and grit. Supplied with a comfortable neoprene neck strap. Limited lifetime warranty.

8x25 PC ETERNA BINOCULARS

This compact binocular is ideal for the bowhunter, clad in rubber armor with a finger-contoured grip design. One interesting feature is a patented soft rubber eyecup which flips out to block lateral light. It delivers exceptionally bright and sharp images.

Supplied with a rugged neoprene BINO-GLOVE™ case and wide neckstrap. Limited lifetime warranty.

7x42 PC ETERNA



Phase corrected
BaK4 roof prism
Fully multi-coated lenses
Waterproof
Nitrogen purged
Ergonomic design
Rubber armored

8x25 PC ETERNA



	EYE RELIEF VIEW	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x25pc	18.5mm	270°	6.0'	12oz
7x42pc	20.0mm	416°	5.5'	30oz
10x42pc	18.0mm	338°	6.0'	30oz
12x42pc	18.0mm	271°	10.0'	30oz

The Brunton Eterna binoculars now have a phase correction for even crisper images.

BINOCULAR ASTRONOMY

The same binoculars you use for hunting are also great for astronomy. The moon becomes a nightly "discovery-land" with at least 100 craters and mountain ranges viewable. With decent "seeing", dozens of double stars and star clusters are visible. A few bright galaxies (like M31, the Andromeda Galaxy) and nebulas (like M42, the Orion Nebula) are great binocular targets. Binoculars are often the tool of choice for observing comets and their beautiful tails.

Like telescopes, aperture is the key to determining what is viewable. With larger objective lenses, more night sky objects will be visible and also brighter. Amateur astronomers typically use binoculars with front objectives of 50mm or more. Most of these are better than small aperture (60mm) department store telescopes! For this reason binoculars are recommended for beginners interested in astronomy. Even compact binoculars (if you already own them, or your primary interest demands light-weight and portability) can gather roughly 9x the light you see with the un-aided eye.

EAGLE OPTICS LENS PEN

Keep this tool handy for cleaning your lenses, anytime and anywhere. The LENS PEN fits in your pocket, so it's always handy! Details on page 45.



LENS PEN

Tips

OPTICS
FOR
HUNTERS



Not all hunters understand how to properly use their optics. Too often, hunters will only use their binoculars to identify something they've already spotted with their eyes. This is a mistake!

If you continually use your binos to search and look and peer through undergrowth, you'll be amazed how often you'll see something you would have missed without them. You'll learn to see a leg, the tip of an antler, or colors that belong to an animal. You'll find that movement almost always tips you off to game.

Many times while glassing I've spotted shapes that I was reasonably sure were animals, but couldn't quite tell. The key to spotting game is waiting and watching for movement. Now, if you think it's a bedded animal that isn't going to move anytime soon, it's time to grab the spotting scope. Just be sure you don't lose track of where the object is at!

PAUL'S POINTER

● Before I ever pull my binos off something like a bedded animal, I'll always pick some distinctive object near it that will allow me to find it again in my spotting scope.



BUSHNELL

LEGEND BINOCULARS

Whether you view deer near your tree stand or elk on a distant mountain slope, you'll see plenty of detail through these bright binoculars. Designed to offer outstanding optical quality and state-of-the-art technology. They offer superior optical resolution and performance—even in inclement weather. The non-slip ergonomic rubber armoring provides a secure grip.

Supplied with a rugged carrying case, lens covers and neck strap. Limited lifetime warranty.

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x42	18mm	380°	6.0'	30.1oz
10x42	16mm	315°	6.0'	29.8oz

8x42 LEGEND

Now Phase corrected
BaK4 prisms
RAINGUARD PROTECTION
Fully multi-coated optics
Waterproof
Nitrogen purged
O-ring sealed
Non-slip rubber armor
Ergonomically designed body
Patented twist-up eyecups

LEGEND COMPACT BINOCULARS

Tough binoculars with enough eye relief for eyeglass/sunglass wearers and now even brighter with phase correction. Supplied with a carrying case and neck strap. Limited lifetime warranty.

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
9x25	18mm	289°	5.5'	5.4oz

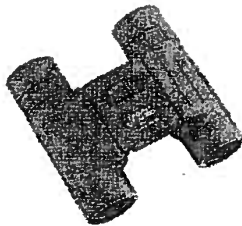
9x25 LEGEND

Getting out to explore is rewarding with the reliable optics of the LEGEND binoculars.

TROPHY BINOCULARS

Bushnell's *all new* TROPHY binoculars are now better than ever. Ideal for hunters, hikers, anglers, naturalists and outdoor professionals, they now feature BAK-4 prisms to allow maximum light transmission and have high contrast, amber multi-coated optics. Ribbed and grooved dark green rubber armoring ensures a secure grip even while wearing gloves. They'll go anywhere, in any weather, and take loads of punishment along the way.

Supplied with carrying case, lens covers and neck strap. Limited lifetime warranty.



8x25 TROPHY

BaK-4 prisms
Waterproof
Nitrogen purged
O-ring sealed
Multi-coated amber optics
Dark green rubber armor



8x25TROPHY	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
Standard-size models feature long eye relief and twist-up eyecups for eyeglass wearers.	8x25	11mm	420'	14' 13.0oz
25mmTROPHY models feature fold-back eyecups.	10x25	17mm	390'	36' 12.5oz
	8x42	19mm	335'	14' 27.0oz
	10x42	21mm	305'	14' 28.0oz

Tips

OPTICS
FOR
HUNTERS



Most experienced western hunters know that glassing is the key to a successful western hunt, but it must be done correctly to take full advantage. This is an activity that requires great patience. You should be prepared to glass from a particular location for hours if necessary. If you're really in a good spot, you might even glass it for days.

It is very important to hold your binoculars as steady as possible while glassing. Even a tiny wiggle or tremor may cause you to miss a bedded or motionless animal. Tricks like bracing elbows on knees, touching your fingertips on your hat or forehead, and sitting in a comfortable position with your back supported will all help. You can even mount your binoculars on a tripod if you don't mind lugging one along.

Learn to take advantage of the sun's position, too. A low evening sun *behind you* will give you amazing lighting on a mountainside and make game stand out. I will usually try to plan my glassing locations to take advantage of the best sun position in the morning and, again, in the evening.

FUJINON TRIPOD ADAPTER

Consider mounting your binocular on a tripod for more comfortable viewing over extended periods of time. You'll also enjoy shake-free views of the stars while using binoculars of 10x or larger.



CANON

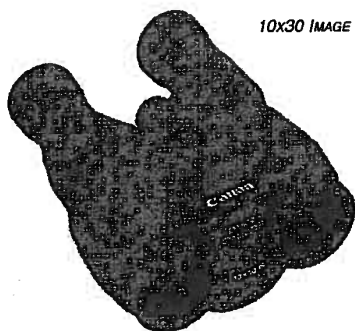
Canon continues to be a world leader in photographic equipment. Advanced optical designs based on camera lenses are the building blocks for Canon's innovative binoculars, too. All of the lens elements are made of lead-free optical glass.

IMAGE STABILIZED BINOCULARS

Canon produced the world's first active optical image stabilized design for binoculars, making it practical to view at higher magnifications without the bothersome effects; blurry images, eye strain and fatigue. An advanced optical design, based on the Canon EF SLR camera lenses, results in an exceptional binocular for resolving fine details. A remarkable field of view makes it easier to locate subjects at a distance, too.

The image stabilizer operates continuously and conveniently with just one press of a button (functioning almost the instant it is turned on). It is able to correct for rough hand tremors as well as minute vibrations. The unusually compact design adds little to the overall size and weight of the binocular.

Supplied with a soft case, neck strap, rainguard, 2 Alkaline batteries and a 1-year warranty.



10x30 IMAGE STABILIZED BINOCULAR

*Doublet field flattener
(dramatically reduces curvature of the field)
SUPER SPECTRA multi-coatings
(improve contrast and minimize color smearing)
Non-slip rubber armor.*

MODEL	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
10x30	14.5mm	91°	13.8"	21.2oz
12x36	15.0mm	89°	12.1"	31.4oz

ALL WEATHER IMAGE STABILIZED BINOCULARS

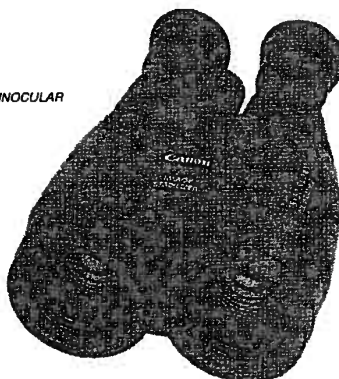
Weather-resistant, these binoculars use Ultra-low Dispersion (UD) objective elements to ensure sharp, clear images with color fidelity. Increase the clarity even more by adding the Anti-fog eyepieces to prevent condensation. These binoculars offer very high magnification with extended eye relief and a wide field of view in a Roof prism design. The image stabilizer operates continuously and conveniently with just one press of a button (functioning almost the instant it is turned on).

The ALL WEATHER IMAGE STABILIZED models include a tripod socket for additional stability. Supplied with soft case, neckstrap, rainguard, 2 Alkaline batteries and a 1-year warranty.

15x60 ALL WEATHER IMAGE STABILIZED BINOCULAR

*Doublet field flattener
(dramatically reduces curvature of the field)
SUPER SPECTRA multi-coatings
(improve contrast and minimize color smearing)
Rugged, water-resistant body.
Non-slip rubber armor.*

MODEL	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
15x50mm	15.0mm	237°	19.7"	42.3oz
18x50mm	15.0mm	195°	19.7"	42.3oz



Tips

OPTICS
FOR
HUNTERS



Buying the best quality optics you can afford will allow you to spend the greatest possible time with them pressed to your eyes. Poor quality optics lead to eyestrain and headaches—and you won't spend as much time glassing.

You've probably heard the old statement about fishing that says "to catch fish, you need to have your line in the water". Well, when glassing you won't find the game unless that binocular is at your eyes—not hanging on your chest. Poor quality optics are simply no fun to use and they will spend more time just dangling from your neck. In the long run, you'll probably save money by buying better quality initially to avoid trading up later and, in the meantime, you'll find more game.

"Eagle Optics offers a wide selection of equipment from every major manufacturer of visual optics. They feature only those models that, in their experience, represent the best performance and value in various categories suitable for the outdoor enthusiast.

Fair, honest and knowledgeable service, extremely competitive prices, and customer satisfaction have made Eagle Optics the leader in supplying optic equipment to birdwatchers, amateur astronomers, and outdoor enthusiasts."

—Natural History Magazine

April 2001

FUJINON

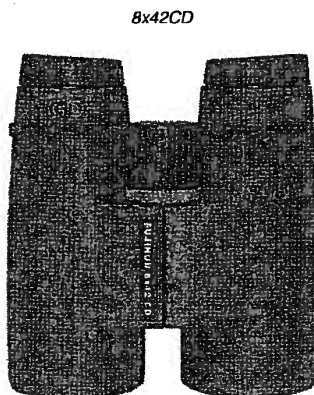
Fujinon binoculars are widely used on naval and coast guard vessels because of their advanced optical technology and reliability. All of their waterproof binoculars are rated to military specifications.

FUJINON CENTER DIOPTER SERIES

The Fujinon CD models offer you an extraordinary value in a roof prism binocular. Computer designed optics and BaK-4 prisms deliver outstanding light transmission and optical performance. You'll see clear, sharp color-corrected images that are virtually free from distortion and astigmatism. All of this comes ergonomically designed for comfort while you glass.

Supplied with case, lens caps, and neckstrap. Fujinon lifetime limited warranty.

EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
7x42cd	20mm	420'	28oz
8x42cd	15mm	367'	30oz
10x42cd	13mm	342'	30oz



Phase-corrected
Waterproof
Nitrogen-purged

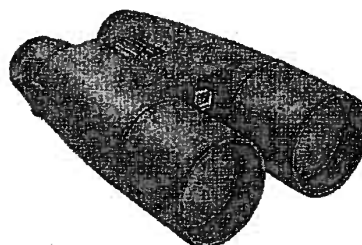
Fully multi-coated
Rugged, rubber armor
Light alloy body

FUJINON HUNTING BINOCULARS

Fujinon designed these rugged HB binoculars to handle the most extreme conditions you'll face. Built to meet or exceed Military Specification standards for shock and water-proofing, the Fujinon HB models provide you with bright optics in an affordable roof prism design. These binoculars are superior for long-range viewing.

Supplied with a case, rainguard, lens caps, and neck strap. Lifetime limited warranty.

EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
10x60-HB	20mm	420'	28oz
12x60-HB	15mm	367'	30oz
15x60-HB	13mm	342'	30oz



Phase corrected
Multi-coated
Waterproof
Nitrogen purged

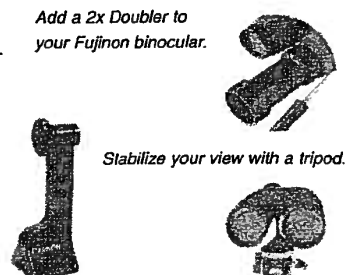
Shockproof
Rugged alloy body
Ergonomic design
Rubber armored

BINOCULAR 2X DOUBLER

This optional piece converts half of the binocular into a spotting scope -- doubling your sighting power!

FUJINON TRIPOD ADAPTER

Consider mounting your binocular on a tripod for more comfortable viewing over extended periods of time. You'll also enjoy shake-free views of the stars while using binoculars of 10x or larger.



Add a 2x Doubler to
your Fujinon binocular.

Stabilize your view with a tripod.

FUJINON WATERPROOFING

How much protection is enough for Fujinon? A waterproof binocular must be immersed in two meters of water for two weeks and show absolutely no sign of water penetrating the housing.

Tips

OPTICS
FOR
HUNTERS



Useful accessories like tripod adapters, NEOPRENE straps, harness type straps and cleaning tools will maximize your optics purchase. If you carry your bins around your neck all day, a harness strap which puts the weight on your shoulders rather than your neck will also provide more comfort. The harness strap also works very well to keep the bins from swinging and jumping around as you hunt on horseback or with an ATV.

A tripod adapter will allow you to mount most binoculars on a standard tripod for extended glassing periods. In addition to being more comfortable, the rock steady platform will enable you to see more detail.

OPERATION MIGRATION

Visit Operation Migration and learn how this organization is helping to preserve the world's ecosystem along with all of its creatures by showing migrating birds safe migratory routes and sharing information about their significance.

To learn more, visit
www.operationmigration.org

For personalized assistance, call 800-289-1132 or visit us at www.eagleoptics.com.

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SW01558

KAHLES

For more than 100 years Kahles has been a leading manufacturer of riflescopes. Kahles continues this tradition with binoculars for hunting. Made in Austria.

KAHLES ROOF PRISMS

You're sure to appreciate the brilliant performance of these binoculars, especially if you view wildlife under lower light conditions. They are ergonomically designed for comfort while handling.

Supplied with special winged eyecups that block out lateral light, rainguard, objective lens covers, and a neck strap. Limited lifetime warranty.

New 8x32 Roof Prism

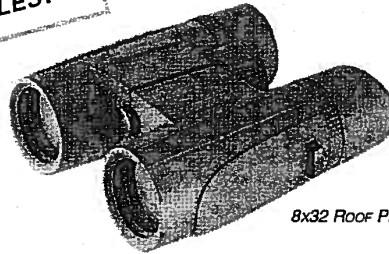
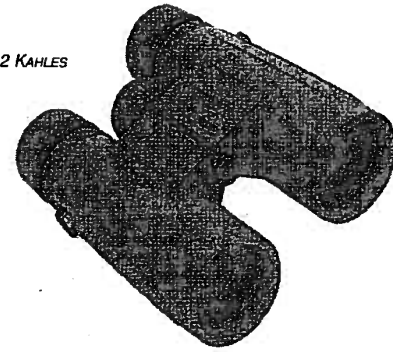
This is a wonderful binocular when you want crisp, bright images in a lightweight, yet small frame. The 8x32 features similar optics to the well-respected 42mm Kahles models. The wide field of view, long eye relief and small size make this a very appealing binocular for the person hunting closer distances.

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x32 _{pc}	16mm	39°	5'	21.5oz
8x42 _{pc}	19mm	33.1°	8'	26.5oz
10x42 _{pc}	16mm	21.5°	8'	26.5oz

Phase corrected prisms
Fully multi-coated optics
Waterproof
Nitrogen purged
Retractable eyecups
Shock-absorbing rubber armor
Comfortable gripping area

NEW
KAHLES!

8x42 KAHLES



8x32 ROOF PRISM

Block out bothersome lateral light by exchanging the twist-in eyecups with the winged eyecups to reduce glare while viewing.

KIDS

Parents wanting to encourage a child's intellectual growth and physical well being find that nature observation is a great way to accomplish both goals. Helping children take a better look at wildlife is a natural way to teach them to love and appreciate the outdoors.

Put a pair of binoculars in a kid's hand and see how excited they get! We recommend that kids keep the magnification down around 7x or 8x. Higher magnification models narrow the field of view, making it more difficult to find and follow things on the move. The images may also appear shaky, hurting the resolution.

It's
never too
early to
pass on
a love for
nature!



MAIN POINTS TO REMEMBER:

1. Does the binocular fit comfortably in the child's hand?
2. Can the child easily reach and use the focus knob?
3. Do the binocular barrels fold in close enough for the child's eyes?

SMALLER CHILDREN

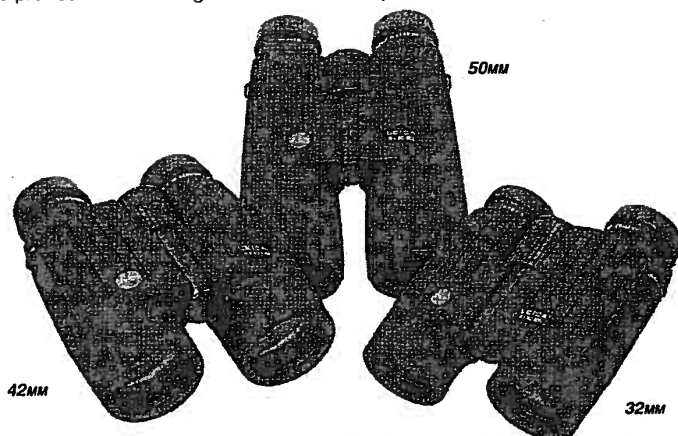
Smaller children usually work better with compact binoculars. Compacts will fold down close enough to fit the child's narrow interpupillary distance (measurement between a person's eyes) and fit nicely into small hands. It is also easier for kids to reach and manipulate the focus wheel on smaller, compact binoculars.

OLDER CHILDREN

Older children, or those who are larger, can use the same full size models as an adult would, though many still prefer the smaller compacts. Let's face it, kids have pretty active lifestyles and it's easier to hike and bike with a compact.



For more than 140 years, Leica has been building a reputation for providing high performance optics that are made to last. Today, Leica continues to use sophisticated optical computations, glass fabrication with extremely tight tolerances, and precise manufacturing to deliver razor sharp views of our incredible world.



The Trinovid BN binoculars include top-of-the-line features to satisfy your need for excellence.

TRINOVID BN BINOCULARS

These premium binoculars will bring you some of the finest views available.

TRINOVID BN 32MM

If you're size and weight conscious, take these smaller models with you as you hunt—outstanding wide-angle and great close focus images. Hikers and backpackers also appreciate their compact body design.

TRINOVID BN 42MM

Resolve more fine details, even at twilight, with the larger 8x42 BN model (the most popular for general use). The 7x42 BN has a very large and bright visual field that makes it ideal for observing in low light and on the water. Choose the 10x42 BN for outstanding observation of wildlife at longer distances.

TRINOVID BN 50MM

These gather more light so you'll get the most out of the day. The sophisticated 12x50 BN delivers great performance at very long range.

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x32	13.3mm	405'	7.2'	22.0oz
10x32	13.5mm	360'	6.9'	23.3oz
7x42	17mm	420'	10.8'	31.4oz
8x42	15.9mm	390'	10.2'	31.4oz
10x42	13.9mm	330'	9.7'	31.4oz
8x50	18.1mm	345'	11.8'	40.6oz
10x50	14.6mm	345'	11.0'	40.6oz
12x50	13.2mm	328'	10.7'	40.6oz

LEICA BN TRINOVID BINOCULAR FEATURES

Phase correction coating.

HDC (High Durable Coating) provides scratch-resistance on lenses.

Waterproof with internal focus.

Nitrogen purged for protection against dust and humidity.

O-ring seals protect against water damage, even if submerged.

Shock- and sound-absorbing polyurethane armor.

Helical focus mounts of aluminum and brass for smooth movement.

Multi-function central focus drive with diopter adjustment.

Retractable eyecups provide eyeglass wearers with a full field of view.

Reliable functioning between -25 and +55 degrees Centigrade.

TRINOVID BN BINOCULARS

Whether you scan the landscape for distant wildlife, gaze at the stars, or study birds and butterflies up close, you're sure to find what you need in a Trinovid BN binocular.

B German for "brilliantly clear," which means they offer long eye relief for eyeglass wearers.

N Indicates the binocular has an exceptional near (close) focus.

The Leica BN models are truly exceptional binoculars. Supplied with a case, neck strap and rainguard. Lifetime Limited Warranty with Leica's PASSPORT PROTECTION:

All Leica binoculars and spotting scopes come with a Lifetime Limited Warranty against manufacturing defects. For extended coverage, register your purchase in Leica's exclusive PASSPORT PROTECTION PLAN. This lifetime no-fault warranty protects you against any damage to your Leica product, including breakage, water damage or accident (excluding fire or theft). No matter how it happens, Leica will fix or replace your Leica optics -- no questions asked.

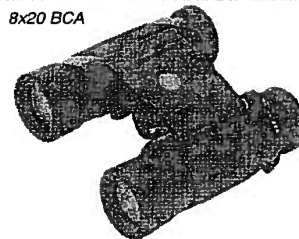
TRINOVID COMPACT BINOCULARS

These compacts are small enough to fit in your pocket and take anywhere. High grade optical glass and complex optical computations deliver superb images that are sharp and bright.

Supplied with neck strap with eyelets on both sides to improve handling. Lifetime limited warranty with PASSPORT PROTECTION.

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x20	13.9mm	345'	9.8'	7.9oz
10x25	13.7mm	285'	16.4'	8.6oz

8x20 BCA



The Leica BCA, with black rubber armor.

For personalized assistance, call 800-289-1132 or visit us at www.eagleoptics.com.

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SW01560

LEUPOLD

Leupold has a long standing reputation for quality-built rugged binoculars and spotting scopes of high optical performance. Their instruments are made to perform well no matter how harsh the weather conditions. Protected by Leupold's Full Lifetime Transferable Guarantee.

WIND RIVER PORRO PRISMS

Leupold has expanded and redesigned their line of full sized models that are solidly built and deliver bright, sharp images. They all use a center focus mechanism for convenience. The tough body of these fast focusing Porro prism models are exceptionally slim and easy to handle. They use aspherical lenses to provide a flat field of view.

The 8x42 delivers optimal light transmission, a sharp image, and plenty of contrast. They are protected from impacts by a tough rubber armor that makes it easy to grip.

Supplied with a Neoprene case and padded neck strap.



8x42 WIND RIVER

A tough and affordable binocular series, imported by Leupold.

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x42	16MM	341'	13.3'	25.4oz
10x50	16MM	278'	26.0'	31.7oz

"Just a short note to tell you how impressed I was with the service and ordering. I was reluctant to order a pair of binoculars from a catalog store since I could not feel, touch and try out the pair I was interested in...did my homework and people said good things about you. They were right."

~Actual Customer Quote

EAGLE OPTICS LENS PEN

Keep your optics clean with this pocket-pen sized tool. See page 45.



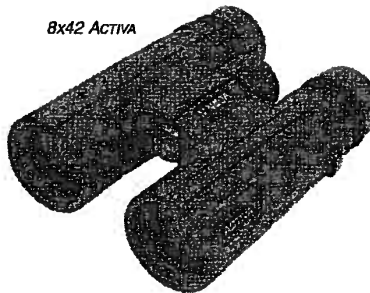
MINOLTA

Minolta designed the Activa series for people with active lifestyles. All binoculars are protected by Minolta's 25 year USA Limited Warranty.

ACTIVA ROOF PRISM BINOCULARS

Look for exceptional resolution and contrast from these tough binoculars. While out hunting, you'll want them along for picking up details on trophy game. Their durable construction is specially designed to seal out dust, dirt, rain, mist, snow and splashes-- even protecting the optics against powerful water jets. A large center focusing knob and convenient diopter adjustment make for easy handling.

Supplied with an ocular rainguard, objective lens caps, a soft case, and neck strap.



8x42 ACTIVA

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x42 _{WP}	20.5MM	330'	8.2'	26.1oz
10x42 _{WP}	16.0MM	314'	8.2'	26.1oz

Phase corrected
Multi-coated BaK4 prisms
100% multi-coated lenses
Waterproof
Nitrogen purged
Retractable eyecups
Rubber armored



MINOX

Minox binoculars and spotting scopes are developed by and manufactured for Leica and share Leica's world-renowned commitment to customer satisfaction.

MINOX ROOF PRISMS
These binoculars offer high quality durable optics with a price that is easy to handle. Their precision engineering and innovative features make them ideal for everything from bow hunting and wildlife viewing to sporting events. The Minox BD 10x52 BR delivers details to your eye even in the haze of the early morning hours.

Supplied with a soft leather belt case, rainguard, lens caps and neck strap. Lifetime limited warranty.

MINOX ED ROOF PRISMS
Minox has introduced a completely new generation of binoculars with enhanced light transmission and high magnification. The result is quite outstanding, providing unadulterated rendering of the finest detail on distant game.

Supplied with a tripod mount, Aluminum storage/transport case, soft case, rainguard, objective lens caps and Neoprene neck strap. Lifetime limited warranty.



NEW!

Extra-low dispersion glass
Waterproof
Nitrogen purged
O-ring sealed
Retractable eyecups
Macrolon body

Minox 15x58 ED



Minox 8.5x42

Phase corrected
Waterproof
Nitrogen purged
Retractable eyecups


Rubber armored
Reinforced aluminum
body

Eye Relief	Field of View	Near Focus	Weight
8x32	15mm	399'	4.9' 21.7oz
8.5x42	15mm	315'	9.1' 26.8oz
10x42	15mm	318'	7.6' 26.8oz
10x52	19mm	282'	11.8' 32.2oz
10x58ED	19mm	325'	16.0' 52.5oz
15x58ED	16mm	215'	16.0' 52.5oz

These Minox models are covered by a lifetime limited warranty for a lifetime of hunting.

Tips

OPTICS
FOR
HUNTERS



WHAT MAKES A BINOCULAR OR SPOTTING SCOPE BRIGHTER?

Brightness in your binocular or spotting scope can be affected by several things. Contrary to what most hunters believe, big objective lenses are not the only factor to consider.

The quality of glass used in prism and lens construction along with the quality of the **lens coatings** contribute more to brightness than big objectives.


Lens coatings are thin layers of chemicals applied to the glass surfaces which improve light transmission. Coating quality is affected by the number of coatings and whether all lenses, inside and out, are coated with several layers of coatings. Ideally, you should purchase an optic that is **fully multi-coated**, which means every lens (inside and out) is coated with at least several layers of the anti-reflective chemical. High quality lens coatings will appear as fairly light, subtle shades of blue, green or violet.


Note: A word of caution here. Beware of optics using heavily colored lenses. These will only cut down on light transmission.

If all other things are equal, a larger objective lens will yield a brighter image, but at the cost of greater size and weight. A higher quality optic with a smaller lens may very well be brighter than a cheaper model with a larger objective.

FUJINON TRIPOD ADAPTER

Consider mounting your binocular on a tripod for more comfortable viewing over extended periods of time. You'll also enjoy shake-free views of the stars while using binoculars of 10x or larger.





For personalized assistance, call 800-289-1132 or visit us at www.eagleoptics.com.

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NIKON SPORTS OPTICS

Nikon is one of the world's leading producers of fine optical glass. This depth of experience shows in the optical excellence of their visual and photographic instruments. Nikon binoculars are covered by a 25-year limited warranty and their 25-year No-Fault Replacement/Repair warranty.

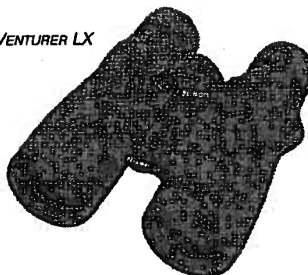
VENTURER LX BINOCULARS

These ultra-high grade binoculars have an all-new eyepiece lens design for superior sharpness, clarity, and a completely flat viewing field. You'll see superior images that are sharp and clear without any vignetting, and the ultimate in color contrast. The optics are protected, too, so the weather won't keep you from being outdoors.

Note the incredible eye relief of the VENTURER LX models with slide-and-lock retractable eyecups.

Supplied with a case, rainguard, lens caps and neck strap.

8x42 VENTURER LX



	EYE RELIEF VIEW	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x42	20mm	366'	10'	84.6oz
10x42	19mm	315'	10'	84.6oz

The VENTURER LX binoculars are 100% waterproof and internally fogproof. Phase corrected optics with high density Bak4 prisms and high reflection coatings provide you with the ultimate in color contrast.

SPORTER

The new SPORTER is a sleek roof prism made to accommodate a wide range of hunters. This water-resistant binocular is a true wide angle design. The high eyepoint design serves eyeglass wearers and non-eyeglass wearers equally well.

Carefully cut and polished lens glass is given multiple layers of anti-reflective coatings for bright, sharp imaging. The rubber armored body is ergonomically designed for hours of comfortable, strain-free viewing. Supplied with case, lens covers, and neck strap.



10x36 SPORTER

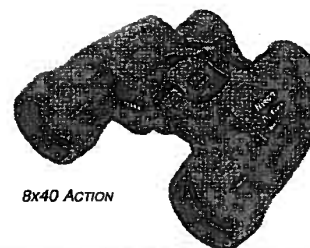
	EYE RELIEF VIEW	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x36	20mm	368'	9.8'	25.3oz
10x36	16mm	288'	9.8'	24.6oz

ACTION SERIES BINOCULARS

These inexpensive Porro prism binoculars feature an aspherical eyepiece system that produces extremely clear, distortion-free images with sharpness over the entire field of view. Multi-coated optics deliver bright, high contrast, flare-free images with true color. Lens fittings are housed in a tough yet lightweight polycarbonate shell. Each model is ergonomically shaped and rubber armored for an easy grip. All are tripod adaptable for additional stability.

Supplied with a case, lens covers, and neck strap.

	EYE RELIEF VIEW	FIELD OF VIEW	NEAR FOCUS	WEIGHT
7x35	11.9mm	489'	16.4'	24.3oz
8x40	11.9mm	429'	16.4'	26.3oz
10x50	11.8mm	342'	23.0'	33.8oz
12x50	9.4mm	288'	23.0'	33.8oz



8x40 ACTION

Choose the Action Series binocular that best meets your demands as a hunter.

ALL TERRAIN BINOCULARS

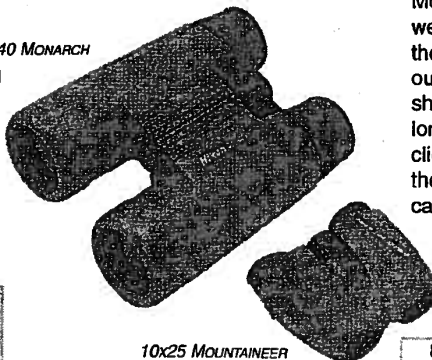
Head out and explore in any kind of weather with Nikon's rugged All Terrain Binoculars (ATB). These ATB models are completely waterproof and nitrogen purged to prevent fogging.

MONARCH ATB

8x40 MONARCH

Take the MONARCH binoculars along for any outdoor activity. They are built with extremely durable alloy housings, shaped to fit the hand, and are completely rubber armored for a slip-free hold.

Supplied with a case, lens covers, and neck strap.



10x25 MOUNTAINEER

	EYE RELIEF VIEW	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x40	19.5mm	340'	19.7'	26.3oz
10x40	15.5mm	314'	19.7'	26.3oz

MOUNTAINEER II ATB

Built ruggedly for the most demanding conditions, the MOUNTAINEERS are compact and weigh less than a pound. Ideal for the bowhunter, or size conscious outdoors person. They deliver sharp, bright images throughout long hours of observation. The click-stop diopter won't slip out of the proper setting. Supplied with case, lens covers, and neck strap.

	EYE RELIEF VIEW	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x25	14.3mm	330'	16.4'	15.9oz
10x25	13.1mm	262'	16.4'	15.9oz

PENTAX

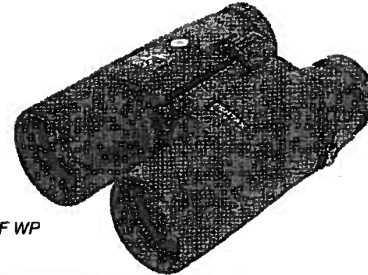
Pentax manufactures optics with your enjoyment of the outdoors in mind. Pentax binoculars remain popular because of their high quality optical and mechanical design.

DCF WP BINOCULARS

These binoculars deliver eye-popping images of any outdoor scene. No matter where you hunt, you'll enjoy sharp resolution.

Supplied with case, rainguard, and neck strap. Limited Lifetime warranty.

Phase corrected
Fully multi-coated
Waterproof and Nitrogen purged
Submersible to 1 meter
Retractable eyecups
Lightweight Magnesium frame
Rubber armored



10x42 DCF WP

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x32	17mm	39.3'	6.6'	21.2oz
8x42	22mm	33.0'	8.2'	26.8oz
10x42	17mm	31.4'	8.2'	26.8oz
10x50	22mm	26.1'	13.0'	33.5oz

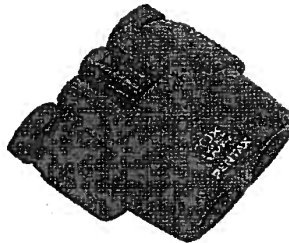
The DCF WPs are a great choice for the outdoors. Durable, Lightweight, and optically sharp!

UCF WR BINOCULARS

These weather-resistant (WR) binoculars are specially sealed to keep out rain, snow, dust, and grime. The Pentax UCF WR models use high quality BaK-4 glass prisms that deliver bright, clear images regardless of the weather.

Supplied with a case, lens covers, and neck strap. Pentax limited lifetime warranty.

10x24 UCF WR



"It's a while since we bought from you, but you are as good as ever! Ordered on a Sunday evening for overnight shipping, the binoculars arrived at our rural cabin Tuesday morning. No problems, great price."

-Actual Customer Quote

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x24wr	13mm	39.3'	6.0'	12.2oz
10x24wr	10mm	31.5'	7.0'	12.2oz

The DCF WPs are ruggedly built for the hunter.

Tips

OPTICS
FOR
HUNTERS



As a professional guide, one of the most common mistakes I see in the field when it comes to hunting optics is the use of small, inexpensive compact roof prism binoculars as someone's main hunting glass (usually in 10x magnification). A hunter must always keep in mind that dawn and dusk are critical times for game movement, and these glasses are notorious for being poor low light performers. In addition, these small light weight bins are almost impossible to hold steady, further worsening the already dim image quality. There have been many

times when I have watched clients give up in frustration after glassing for very brief periods of time through a compact roof prism.

Some types of hunting may require a small, light binocular, but it's best to buy these in low magnification of 7-8x and the best quality you can afford. For example, a bowhunter in a tree stand could use such a bino for glassing short distances of 25-75 yards. However, a full sized 8x42 or 10x42 glass would be a much better choice for an all-around bino. Although larger and heavier, their brighter image, greater eye relief and more comfortable grip make them the best choice.

If you're not worried about size and weight, you can even go with a 50mm objective lens instead of a 42 to maximize light gathering.

Note: All optics users must juggle the benefits of small size and light weight in a compact bino versus the bright image and good low light performance of a full size glass. Keep in mind that, to the hunter, early morning and late evening performance (think low light!) are critical.

STEINER-GERMANY

Steiner-Germany is Europe's largest producer of binoculars, specializing in the field. In the words of Carl Steiner, "We specialize in (binoculars), and have spent our lives in helping you see farther and better. It is our passion and my personal conviction to offer the world's best binocular to you."

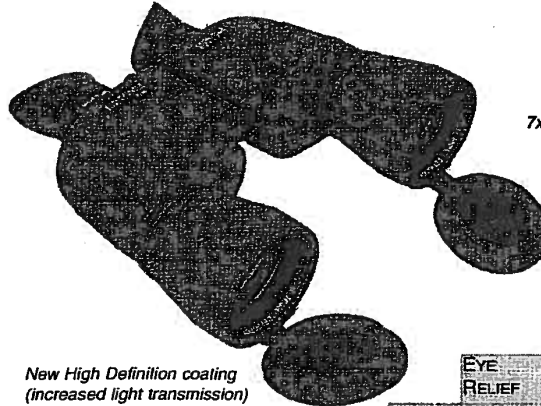
THE NIGHTHUNTER BINOCULARS

As the daylight fades, head out with a NIGHTHUNTER in hand for a view that will amaze you. A new three-dimensional baffle soaks up stray light that would otherwise bounce around inside the binocular. This feature, along with the High Definition coating, produces a binocular with light transmission of more than 95%! THE NIGHTHUNTER is a binocular specifically designed for use in dark or low-light conditions.

Strength and durability is built into each and every NIGHTHUNTER. They are waterproof, shockproof and constructed to specifications for U.S. military performance. The housing is made of a fiber-reinforced polycarbonate material called MAKROLON which is lighter than metal and almost unbreakable.

Supplied with objective lens covers and a neck strap. 30-year warranty.

Nothing escapes the Nighthunter!



7x50 NIGHTHUNTER

New High Definition coating
(increased light transmission)
Waterproof
Shockproof to military specifications
Wrap-around eyecups block lateral light
Dark Forest Green rubber armor

EYE RELIEF	FIELD OF VIEW	WEIGHT
8x30	20mm	390'
7x50	21mm	875'
10x50	22mm	315'
8x56	21mm	845'
12x56	22mm	258'

Eagle Optics customer John Schuchart poses with his trophy Alaskan brown bear (seen in background of photo to the right) taken using the Eagle Optics 10x50 Ranger binocular.

Alaskan brown bear
Kodiak Island
April 1998
#23 In the Boone & Crockett Record Book



"I bought my pair of Eagle Optics binoculars just before this bear hunt, and found the optics and durability to be outstanding. Ninety percent of the hunt was spent glassing. The binocs performed flawlessly - despite the harshest of weather conditions and rugged terrain. I've since hunted with them in the Altai mountains of Central Asia, & in my favorite whitetail haunts here in Wisconsin. A heck of a bargain for the money...."

John Schuchart

STEINER-GERMANY

STEINER PREDATOR BINOCULARS...NOTHING ESCAPES THESE EYES

Game enhancing, high contrast Predator optics give wildlife no place to hide.

PREDATOR ROOF PRISM BINOCULARS

The PREDATOR roof prism models feature Steiner's exclusive PREDATOR lens coating for increased contrast of woodland colors, making wildlife spotting easier. Available in three designations, all of which are waterproof and nitrogen-purged to make them internally fogproof. Supplied with a case, objective caps, winged eyecups and a neck strap. 30-year warranty.

Smaller than its series-mates, the PREDATOR 8x22 compact won't weigh you down as you venture into the wilderness. It will present you with clear, bright views of wildlife that are a reward in themselves. Supplied with a padded case and neck strap. 10-year warranty.

Eye	Field of	Near	Weight
RELIEF VIEW	VIEW	FOCUS	
8x22	10MM	369'	8.5oz
8x32	10MM	328'	21.0oz
8x42	20MM	367'	24.0oz
10x42	20MM	295'	25.0oz

PREDATOR PORRO PRISM BINOCULARS

These Porro prisms feature extremely long eye relief that give eyeglass wearers a full field of view. The 8x30 PREDATOR is one durable binocular, shockproof to 11G's. Plus, it's water-resistant.

Supplied with objective lens caps and a neck strap. 10-year warranty.

Eye	Field of	Near	Weight
RELIEF VIEW	VIEW	FOCUS	
8x30	20MM	390'	18.0oz
12x40	20MM	295'	26.0oz

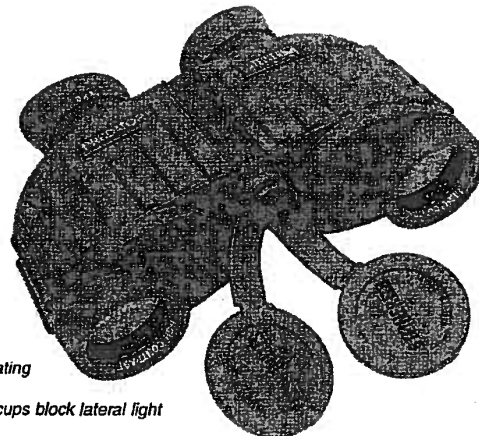


8x42 PREDATOR

PREDATOR lens coating
Waterproof
Nitrogen purged
Shock-resistant
Long eye relief
Wrap-around eyecups block lateral light
Center focus

PREDATOR ROOF PRISM binoculars come in a variety of configurations to fit the needs of every wildlife observer.

8x30 PREDATOR



PREDATOR lens coating
Long eye relief
Wrap-around eyecups block lateral light

PREDATOR PORRO PRISM binoculars feature Steiner's Sports Auto-Focus, once set for your eyes, they deliver sharp images of everything from 20 yards to infinity, with no further adjustment.

"Eagle Optics provides quality products and service and is an ardent supporter of a variety of conservation causes, including the Florida Birding Festival and the Directory of Nature Festivals. Their leadership in this arena is good news for birders, and for birds and their habitats. By supporting Eagle Optics, customers are also supporting important conservation programs."

~Peter Stangel

The National Fish and Wildlife Foundation promotes the conservation and management of fish, wildlife and plant resources. This nonprofit charitable organization meets its goals by awarding challenge grants through which public - private partnerships are created and investments in conservation activities are increased.

For personalized assistance, call 800-289-1132 or visit us at www.eagleoptics.com.

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SWAROVSKI OPTIK

Swarovski Optik is a world leader in the design and production of top quality binoculars and spotting scopes and is also very involved in sponsoring projects that protect nature around the world. They constantly monitor and repeatedly improve all production stages to ensure that their production methods conform to the highest environmental standards.



FEATURES OF SWAROVSKI BINOCULARS

Utilization of lead- and arsenic-free types of glass in the production of lenses and prisms.

Airtight, dustproof, and waterproof even when submerged to a depth of 13 feet.

Nitrogen purged to eliminate internal fogging.

100% functional reliability from -13 to 131 degrees Fahrenheit.

Noise- and shock-absorbing casing made from non-slip rubber.

Performance and dependability have made Swarovski Optik products desirable and well-respected. SLC eyecups can be removed for cleaning or exchanged for winged eyecups that prevent the entry of ambient light.

SLC BINOCULARS

These multi-functional binoculars are popular because they are suitable for use in many situations. When you pick up an SLC binocular you'll be rewarded with bright, high contrast images of birds and wildlife due to the excellent light transmission of the design, now coated with the same *SWAROBRIGHT* coatings as used in the EL models. A 3-element objective lens is used to increase the light gathering ability of each model.

Perfect balance, functional thumb depressions and an easy-grip focus wheel make using a Swarovski SLC instrument a memorable experience.

Supplied with a case, neck strap, objective lens covers, and rainguard. Lifetime warranty.

SLC BINOCULAR FEATURES

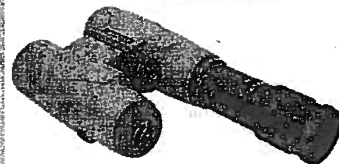
Phase corrected
Optimized roof prism system
Swarobright coatings
Waterproof and Nitrogen purged
Removable twist-in eyecups
Integrated dioptic correction in focus wheel
Permanent axis alignment
Tripod adaptable

EYE RELIEF VIEW	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x30	15mm	408'	13' 20.8oz
7x42	19mm	420'	13' 33.5oz
10x42	14mm	330'	13' 30.7oz
8x50	21mm	369'	20' 40.6oz
10x50	17mm	336'	16' 40.9oz
8x56	22mm	345'	30' 45.5oz
15x56	13mm	231'	26' 47.3oz

SLC BINOCULAR WITH DOUBLER

The DOUBLER increases the magnification of specific SLC binoculars as listed in the chart below.

EYE RELIEF VIEW	FIELD OF VIEW	EXIT PUPIL
7x42	32mm	123' 3.0mm
10x42	32mm	87' 2.1mm
8x50	32mm	105' 3.1mm
10x50	32mm	87' 2.5mm
8x56	32mm	108' 3.5mm
15x56	32mm	57' 1.9mm



DOUBLER on SLC binocular

The Doubler increases magnification on the Swarovski EL models and most SLC models.

2x DOUBLER

This handy ocular doubles the magnification of EL and selected SLC 42, 50, 56mm binoculars (see chart at right). Simply unscrew an eyecup on the binocular and screw on the DOUBLER in its place. You can then easily focus with the center focus wheel. The DOUBLER is durable, watertight, measures 4.5 inches long, and only weighs 6.0 ounces. Supplied with its own case.

SWAROVSKI OPTIK

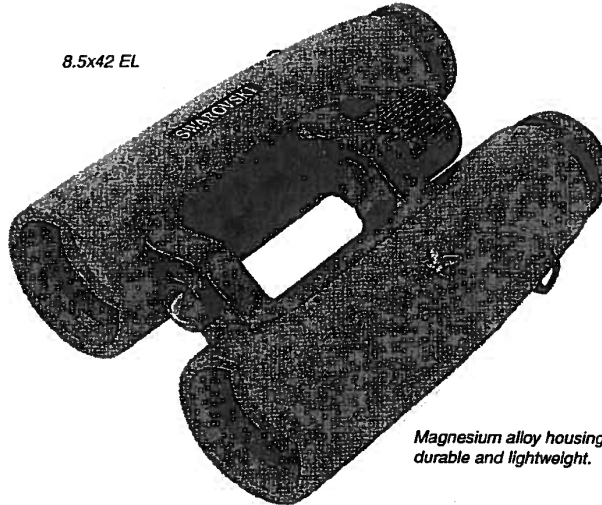
EL BINOCULARS

Superb optics using the very latest technology bring you a closer look -- quickly! The design of the EL binoculars provides perfect weight balance and a non-slip rubber armoring that makes them particularly pleasant to handle -- no matter how unpleasant the weather. You'll see absolutely true color reproduction with extreme image sharpness that is so critical for observing trophy game.

By adding a **DOUBLER** (description on previous page) to one of the eyepieces, you'll increase the magnification even more.

Supplied with a case, neck strap, objective lens covers, and rainguard. Lifetime warranty.

8.5x42 EL



Magnesium alloy housing is durable and lightweight.

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8.5x42 _{EL}	18mm	390'	8'	28.9oz
10x42 _{EL}	15mm	330'	8'	27.5oz

EL BINOCULARS WITH DOUBLER

See the previous page for more information about this accessory.

	EYE RELIEF	FIELD OF VIEW	EXIT PUPIL
8.5x42 _{EL}	32mm	99'	2.5mm
10x42 _{EL}	32mm	87'	2.1mm

EL BINOCULAR FEATURES

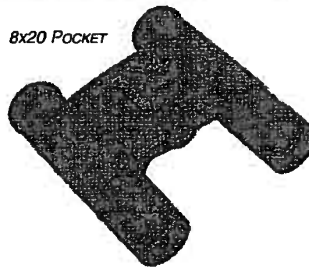
Phase corrected, optimized roof prism system
SWAROBRIGHT coatings
 Three element objective lens for excellent light gathering ability
 Wide angle eyepiece for extra large field of view
 Integrated diopter correction with the center focus wheel
 Access the focus wheel quickly and easily, even when wearing gloves
 Ergonomic design with thumb depressions for perfect balance
 Hinged rainguard, adapting to any interpupillary distance
 Twist-up eyecups reveal the wide field of view to eyeglass wearers
 Eyecups can be removed for cleaning or exchanged for winged eyecups to block lateral light

POCKET BINOCULARS

When a full sized binocular is a bit much for the occasion, take along these tiny center focus, waterproof binoculars. You'll appreciate the brilliant, high contrast images and wide field of view at the opera as much as in the outdoors.

Supplied with a case and carrying cord. Lifetime warranty.

8x20 POCKET



Phase corrected
 Highly precise roof prism system
 Broadband coatings
 Complex optical system
 16 lenses for bright images
 Twist-up eyecups
 Durable alloy housing

	EYE RELIEF	FIELD OF VIEW	NEAR FOCUS	WEIGHT
8x20	13mm	345'	13'	7.6oz
10x25	13mm	285'	16'	8.1oz

These Swarovski Pocket binoculars fold down to a mere two inches in width so you can easily carry them in your coat pocket.

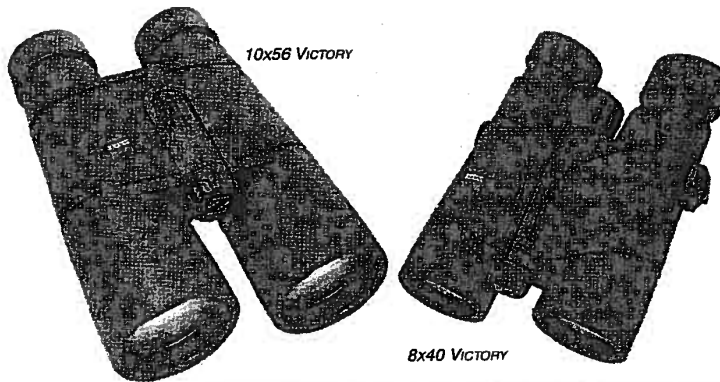
"While your optics are clearly among the best, your commitment to wildlife conservation is even more impressive. When your staff heads to the field, equipment sales and promotion often take second billing to the crafting of partnerships for conservation education and related projects. Congratulations, Eagle Optics, for showing us optics aren't the only place for clear vision."

-Larry Ditto
 Valley Land Fund Wildlife Photographer

Larry Ditto was recognized as the Valley Land Fund Wildlife Photographer of the Year in 2000. The mission of the Valley Land Fund is to preserve, enhance and expand the native wildlife habitat of the Rio Grande Valley through education, land ownership and the creation of economic incentives for preservation.

ZEISS

Zeiss has been a pioneer in optics for 154 years and retains worldwide respect throughout the industry. Zeiss aims to provide accurate color, stunning contrast, crisp imagery, and a lifetime of profoundly satisfying performance. Zeiss optics have characteristics which should not be taken for granted: the use of carefully selected materials, outstanding optics, precision engineering, life-long reliability and a limited lifetime transferable warranty.



10x56 VICTORY

8x40 VICTORY

The VICTORY series features the Advanced Optical System for increased optical clarity.

VICTORY COMPACTS

Zeiss introduces a new generation of pockets, representing a peak in the evolution of small, lightweight models. The functional and attractive design ensures comfort, even when used in wet and cold weather. Zeiss T* multi-layer coating of all lens elements and prisms in the optical system guarantees high brilliance, razor sharp definition and outstanding color fidelity. Supplied with a Cordura pouch and carry strap. Lifetime Transferable warranty.

8x20	13.5mm	351'	10.8"	7.94oz
10x25	13.5mm	285'	18.0"	8.64oz



8x20 VICTORY

NEW!
Fully multi-coated
Waterproof
Dustproof
Push-pull eyecups
Sturdy, fiber reinforced synthetic body
Black rubber armor

DIMENSIONS 8x20: 4.02"H x 4.17"W
DIMENSIONS 10x25: 4.72"H x 3.82"W

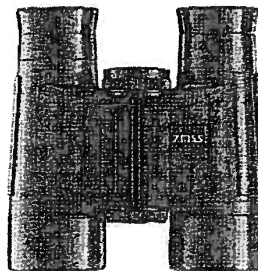
CLASSIC BINOCULARS

You'll find Zeiss quality wrapped up in the 8x30 B/GA--what may be the most universally-sized binocular. It offers you the wide field of view and compactness along with higher magnification.

All CLASSIC models are supplied with a soft leather case, neck strap, and rainguard. Lifetime Transferable warranty.

8x30	14mm	405'	10"	20.5oz
10x40	15mm	330'	16"	26.8oz

8x30 B/GA



VICTORY BINOCULARS

The VICTORY binoculars bring you state-of-the-art perfection in packages that are smaller and lighter than you might expect. A completely new type of glass allows lenses to be thinner and lighter at the center with superior image quality, thanks to the proprietary ZEISS P* phase correction coating and ZEISS T* anti-reflective coatings.

The 56MM VICTORY binoculars are redefining the field of big binoculars by offering stunning light transmission and incredible detail recognition in a model that is ergonomically designed for comfort.

All VICTORY models are supplied with a soft leather case, neck strap, and rainguard. Lifetime Transferable warranty.

8x40	16.0mm	405'	10.0"	25.0oz
10x40	16.0mm	330'	8.5"	26.0oz
8x56	17.5mm	396'	16.0"	40.0oz
10x56	15.6mm	330'	16.0"	42.0oz

"It is a pleasure to deal with a company that understands how difficult it is to choose optic instruments and makes such good provisions for returns. I also appreciated very much the excellent and patient advice I got from the two people I conferred with about my choice of binoculars. I will certainly return to Eagle Optics in the future, and will recommend this company highly."

-Actual Customer Quote



SPOTTING SCOPE DESIGN

WHAT SIZE SPOTTING SCOPE DO YOU PREFER?

The objective lens determines the amount of light that enters the scope. You will note greater image detail and clarity with larger objective lenses, but larger objective lenses will mean larger size and weight. A 60mm scope can work very well at most times of day with moderate magnification and is lightweight for hiking or backpacking. If weight and bulk aren't an issue, 70mm to 90mm scopes will provide great detail and clarity through twilight or with higher magnifications.

DO YOU PREFER ANGLED OR STRAIGHT-THROUGH VIEW?

Many spotting scopes are available in either a straight through or 45-degree angle eyepiece placement design. Optically, there is no difference in quality; personal preference will influence the design you select. The straight-through design is a favorite with nature observers since this design makes it easy to sight and follow a moving object. It also works well with a car window mount. The offset design (eyepiece at a 45-degree angle) makes it easier to view objects above the horizon or at treetop levels. The angled design is also very useful for groups, as it works well with observers of all heights with minimal tripod movement.

DO YOU NEED A WATERPROOF SCOPE?

If you want to use your scope in wet, snowy or humid conditions, it's a good idea to purchase a waterproof model. A truly waterproof spotting scope is sealed and nitrogen purged.

WILL YOU WEAR EYEGLASSES?

If you want to wear eyeglasses while observing through your scope, you will want an eyepiece that offers long eye relief. Eyepieces with a minimum 15mm of eye relief will allow you to view the full field of view in comfort.



Without glasses you can easily place your eye at a distance from the lens where you'll see the full field of view.



Glasses may keep you from getting your eye close enough to the eyepiece (preventing you from seeing the full field of view) unless the eye relief is long enough.

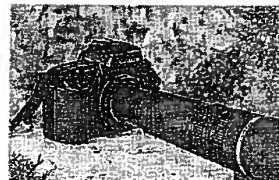
HOW DO OPTICAL GLASSES ENHANCE IMAGE QUALITY?

The objective lens of an optical system refracts or "bends" light, attempting to direct that light to a certain focal point at some distance behind the lens. Each color or frequency of the visible light spectrum has its own characteristics and will bend at slightly different angles when it passes through the lens. Therefore, the various colors will focus at different points. The result is an image with poor color quality and a lack of sharpness. Many spotting scopes will incorporate a pair (doublet) of different types of glass elements in the objective lens to improve image quality.

Certain spotting scopes incorporate special cost- and labor-intensive glass like Fluorite, ED (extra low dispersion), and HD (high definition) glass in the objective lens to correct for chromatic aberration and color fringing. They provide highly resolved images with enhanced brilliance and exact "true-to-life" color. Even the finest structures will show up well in high contrast and clarity. The actual observed difference between spotting scopes with and without these special glasses is most noticeable under low light conditions or at higher magnifications. For the more serious observer, the enhanced image quality will be worth the extra cost.

ARE YOU INTERESTED IN TELEPHOTOGRAPHY?

Many spotting scopes are photo-adaptable. In most cases you'll need to purchase a photo adapter that is unique to the scope plus a T-ring that fits your 35mm SLR camera. These two pieces work together to convert your spotting scope into a telephoto lens. Actual photograph quality through standard scopes varies. Photographs of extraordinary quality are possible through spotting scopes with enhanced lens elements.



For personalized assistance, call 800-289-1132 or visit us at www.eagleoptics.com.

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SW01570

GUIDE TO HUNTING OPTICS

Tips

OPTICS
FOR
HUNTERS



Any hunter will benefit from owning a spotting scope. Whether you use it to identify a trophy buck at long range, observe migrating waterfowl in the spring, or spot bullet groups at the range it will enhance your enjoyment of the outdoors. Spotting scopes are tools that offer more magnification than binoculars, but will require the use of a tripod or window mount. Most commonly sold with zoom type eyepieces in either 15-45x or 20-60x magnifications, these scopes will allow you to identify or observe animals at distances beyond what your binoculars work at.

If you anticipate any field use of the scope, I would suggest buying a waterproof scope. Someone who will only use their scope at the range could get by with a non-waterproof model, but most of us taking ours out in the field will probably subject them to dust and moisture. Once water gets in your scope, it can be very difficult to remove and could even render your scope useless in the middle of a hunt. Many times, the only way to get it out is to send it to the manufacturer for disassembly and cleaning, which can be an expensive, time consuming proposition.

BALANCING SIZE AND COST

The two biggest factors in your spotting scope purchase will be price and size/weight. If you can afford one, and size isn't too much of an issue, the larger 77-80mm aperture models with a 20-60 zoom will give you the brightest and sharpest images possible. Of course, these spotting scopes are generally more expensive and will be longer and heavier. They will usually be priced in the \$500- \$1500 range and weigh in the 45-60 ounces range. Now, if this is too expensive or simply too big and heavy, you should look to the 60mm aperture size. Priced in the \$150-\$600 range, these scopes will be smaller, lighter and more user friendly for many hunters. In particular, if you will hike and climb with the scope, consider one of these scopes. Weighing between 30-45 ounces, they offer good balance of cost, weight and optical performance.

STANDARD OR UP-GRADED GLASS

Many spotting scopes will be offered in either *standard* or *high grade glass* versions (High Definition, APO, and fluorite are examples). While the up-graded glass versions offer superior image quality, they will come with a stiff price penalty. Their advantage is slightly sharper image, removal of color hazing around edges, and truer colors in the images. If you desire the best possible quality and price is not an issue, these are the scopes to buy. In most cases, however, I feel the standard glass models will perform just fine for hunting.

EYEPIECE ANGLE

You will also have to decide between an *angled* (eyepiece set at 45 degrees) or a *straight* eyepiece body. There are advantages and disadvantages to both. Straight-thru viewing allows you to locate game more quickly, especially when it's on the move. This design may also work a little better on a window mount. Viewing at an angle has its own advantages. This design allows you to use a lower, lighter tripod. A lower mounted height will be more stable and less susceptible to wind vibration. If you're extremely weight conscious, you may even be able to use an angled scope without a tripod by simply resting it on a pack. The angled eyepiece will also be more accommodating while you're sharing the scope with others. Personally, I find the angled bodies a bit more comfortable to view through.

MOUNTING THE SCOPE

Using your spotting scope most effectively will depend on several things. First and foremost, it must be mounted solidly on a tripod or window mount to get the best performance (you cannot effectively hand hold one). Tripods are available in a wide variety of sizes and weights, but you must match your scope and tripod together. For example, a large scope and small, compact tripod will not work well together. I would also recommend a tripod that has a variable leg spread angle. In addition to accommodating uneven terrain, variable angle legs will allow you to position the tripod low enough to sit behind for extended glassing sessions. Also, remember that in a tripod, weight and size yield solidity (and, so, better image quality). If you're going backpack hunting for elk in the Rockies, you'll want to use a smaller 60mm scope on a nice, compact little tripod. Window mounts work well with most scopes, and allow you handy viewing while in your car or truck where, by not getting out of the vehicle, you'll be less likely to spook game and birds that are nearby.

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Most often, the best way to use a spotting scope while hunting is as a back-up to your binoculars. First use your binoculars to find game, and, then, use the scope to identify very distant game you've discovered but can't make out clearly. If you try to use your scope as your primary glassing tool, you'll soon have eye strain and tire of it. Remember when using your scope, it's much easier to initially find things in the image by turning the power down to its lowest point, giving you the widest possible field of view. Some guides and hunters who frequently glass extreme

distances for long periods of time will use specialized tripod-mounted high power binoculars in the 15-20x range, but these are impractical in size and cost for most hunters.

PAUL'S POINTER

● When switching from bino to spotting scope while looking at game, be sure you have the location clearly marked in your head. It's very easy to lose sight of what you were looking at while making this transition. For example, if an animal is on the move, I'll wait until it's in a very visible spot before trying to find it with my spotting scope.

IMAGE DISTORTION

Due to the high magnifications of spotting scopes, you will notice atmospheric conditions like mirage and heat shimmer affecting how well you see your target. There is no way around this, and even the best scopes show these effects. So, when you're faced with this situation, you may simply have to use less magnification or wait for conditions to change. Remember also what I said earlier about the sun's position. Your spotting scope will work best during the early and late hours of the day with the sun either rising or setting at your back. At these times of the day, the air is usually calm with a minimum of heat currents, providing the best viewing conditions.

USING A SHOOTING BENCH

If you're planning to use your scope at the shooting bench, there are some things you should consider. Many shooters prefer the angled body scopes, which may work better from the shooting position. Obviously, you are trying to see very small objects (bullet holes) at long distances and the bigger apertured scopes with 20-60x eyepieces will work best for this application. But, if you plan to spot at very long ranges of more than 250 yards, even these may not give you enough resolution. Mirage and heat shimmer can come into play, and there may be times no scope will resolve a bullet hole at these distances.

"Eagle Optics is where you should shop for all your optical needs. They have a wide selection of products available and the people there are very knowledgeable and friendly. Prices are very competitive and they will do their best to make you a happy customer."

Sincerely,

M. J. Marshall, D. D. S.

-Badgerland Safari Club International



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EAGLE OPTICS

Covered by the **Eagle Optics Limited Lifetime Warranty** and includes the **Eagle Advantage** service certificate, described on page 10.

THE RAVEN 78MM SPOTTING SCOPE

The all new RAVEN spotting scope will certainly impress you with its optical excellence, mechanical durability, and exceptional value. The RAVEN features remarkable image resolution and excellent contrast and color fidelity, even at high powers.

The RAVEN also excels in low light conditions, thanks to its large 78mm aperture and exceptional optical coatings. The RAVEN features fully multi-coated optics (all air-to-glass surfaces are coated with multiple films of anti-reflective coatings) for maximum light transmission and brightness. This high quality optical system is then set in a sturdy aluminum alloy housing for extraordinary strength and durability. Choose the RAVEN for hunting trips or long treks in the outdoors, it is unbelievably light.

Supplied with a view-through cordura carry case and the 20-60x zoom eyepiece.

PHOTO ADAPTABLE: 800MM F/10.26			
WEIGHT: 52.8oz		LENGTH: 14.25"	
NEAR FOCUS DISTANCE: 17'			
EYEPIECE	FIELD OF VIEW	EXIT PUPIL	EYE RELIEF
MAGNIFICATION	VIEW		
30x	121'	2.6mm	17mm
20-60x (20x)	95'	3.9mm	20mm
20-60x (60x)	53'	1.3mm	14mm

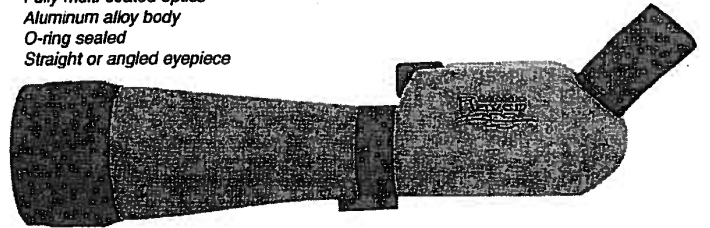
THE TRIUMPH 50MM SPOTTING SCOPE

The new **Eagle Optics TRIUMPH** spotting scope is an ultra-portable and durable optic for hunting. It features a 50mm objective lens with multi-coated optics for a crisp image and true color throughout its 8-24x magnification range. The TRIUMPH also offers good eye relief for comfortable viewing, and great depth of field giving accurate "3-D" image representation.

Supplied with a carry pouch and tabletop tripod.

The 50MM TRIUMPH is a great scope for hunting, hiking, and any activity where size and weight are key considerations.

Waterproof
Nitrogen-purged
Fogproof
Fully multi-coated optics
Aluminum alloy body
O-ring sealed
Straight or angled eyepiece

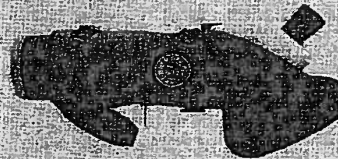


EAGLE OPTICS
Raven™

For a wider field of view than is possible with the zoom, consider the 30x eyepiece.

SPECIAL FEATURES OF THE RAVEN

TELEPHOTOGRAPHY: Convert THE RAVEN into a telephoto lens for your 35mm SLR camera and take high-quality photographs. THE RAVEN will produce great exposures when used in good lighting conditions with 400 or 800 speed film. The photo adapter requires a separate ring for your specific camera body.



The Raven comes complete with a view-through Cordura carry case!

A secure mount clamp ring allows the scope to be set at convenient angles of view with click-stops at -90, 0, and +90 degree (left, center, right) positions.

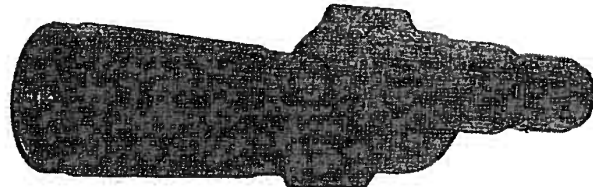


Bayonet connector allows for quick eyepiece exchange.



The lens shade acts as an effective shield against stray light and protects the objective lens from fingerprints and precipitation.

TRIUMPH™
EAGLE OPTICS™



50mm TRIUMPH

PHOTO ADAPTABLE: NO			
WEIGHT: 25.8oz		LENGTH: 10.6"	
NEAR FOCUS DISTANCE: 15'			
EYEPIECE	FIELD OF VIEW	EXIT PUPIL	EYE RELIEF
MAGNIFICATION	VIEW		
8-24x (8x)	189'	6.3MM	16MM
8-24x (24x)	84'	2.1MM	11MM

BAUSCH & LOMB

ELITE PC 60MM SPOTTING SCOPE
This scope has some exceptional features that put it near the top of the compact 60mm spotting scopes. Phase-correcting prism coatings deliver images that are high in contrast and resolution. A roof prism optical system makes it remarkably lightweight and compact even with a rubber armored exterior. It is waterproof, has **RAINGUARD PROTECTION**, and designed for use in the rugged outdoors.

Supplied with lens covers and canvas carrying case. Limited lifetime warranty.

RAINGUARD PROTECTION
Bausch & Lomb's exclusive hydrophobic (water-repellent) coating on which condensation from rain, fog or snow forms in much smaller droplets than on standard coatings.

PHOTO ADAPTABLE: NO
WEIGHT (60MM/70MM): 26.5oz/40.0oz
LENGTH (60MM/70MM): 12.2" / 16.0"
NEAR FOCUS DISTANCE: 17-19'

EYEPIECE MAGNIFICATION	FIELD OF VIEW	EXIT PUPIL	EYE RELIEF
60MM (15x)	125'	4.0MM	18MM
60MM (45x)	85'	1.3MM	18MM
70MM (20x)	90'	3.5MM	16MM
70MM (60x)	50'	1.1MM	9MM

60mm ELITE 70mm ELITE

The ELITE 60mm and 70mm spotting scopes feature Bausch & Lomb's RAINGUARD PROTECTION for clearer views even as it rains. Smaller droplets scatter less light which results in increased light transmission and a much clearer image.

Tips

OPTICS
FOR
HUNTERS



OFF-SEASON SCOUTING

Don't forget that you can use your optics year-round, instead of just during the hunting seasons. Off-season scouting will provide you with useful information, as well as being lots of fun. For example, using your binos and spotting scopes in the summer months will give you a head start in finding trophy game. Although a big buck may not be in exactly the same spot come fall, you'll know he's in the area and probably won't be far away.

Another plus is that at this time of year, animals may be less hunter-shy, and can be a little more visible. Finding trophy animals before the hunting seasons begin also gives you time to seek permission to hunt on private land if necessary.

I have also used my glasses and spotting scopes to locate shed antlers in the early spring. If you're in the right spot, these can be surprisingly visible at this time of year. As well as being nice to collect, big shed antlers tell you a trophy animal made it through the winter and will most likely be around in the fall. Finding sheds with your optics will depend on a good vantage point, and picking the right location. Glassing south and west facing hillsides that animals have wintered on would be good spots to start. Although this technique is most useful in the western states, it could be applied in many other locations.



Hans Gausman, Eagle Optics Graphic Designer, with his whitetail deer.

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SW01574

BUSHNELL

SPACEMASTER SPOTTING SCOPE

The original 60MM SPACEMASTER is a long standing favorite among wildlife observers. It is a reliable, solidly built scope. Considering the combination of solid optics and reasonable price, many consider it one of the best buys on the market.

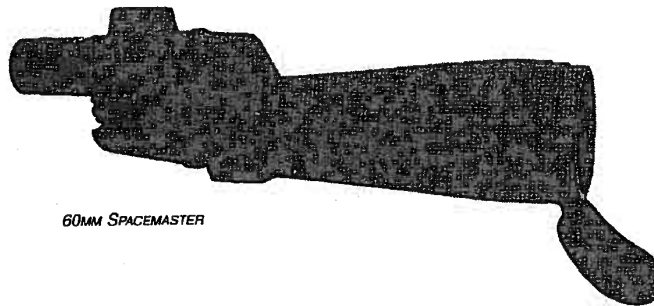
The #78-2317 SPACEMASTER has a

black rubber armor and includes the Bushnell 15-45x zoom eyepiece.

Supplied with a carrying pouch. Limited lifetime warranty

FEATURES:

Built-in non-magnifying peep sight
Hard coated optics
Internal flare shielding

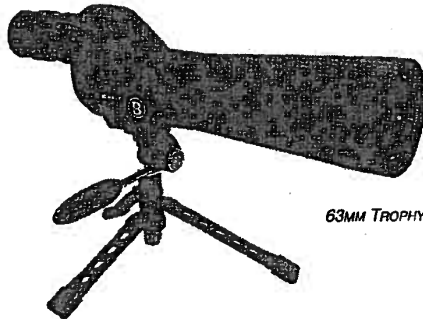


60MM SPACEMASTER

Focus in on distant wildlife through the built-in peep sight before fine-tuning the focus. A photo adapter is available for photography through the scope.

TROPHY SPOTTING SCOPES

Designed for the ultimate in portability. Each of these light weight compact scopes is waterproof and protected with a black rubber armor.



63MM TROPHY

Both of the TROPHY spotting scopes come with a table top tripod and soft carrying case.

50MM TROPHY

Plan to carry this small model along whenever you need to enjoy close-up views.

PHOTO ADAPTABLE: NO			
WEIGHT: 17.0oz		LENGTH: 12.2"	
NEAR FOCUS DISTANCE: 19'			
EYEPIECE	FIELD OF EXIT	EYE	
MAGNIFICATION	VIEW $\frac{250}{mm}$	PUPIL	RELIEF
20-50x (20x)	92°	2.5MM	18MM
20-50x (50x)	52°	1.0MM	18MM

63MM TROPHY

Take in extra light with the larger objective lens for brighter and clearer images.

PHOTO ADAPTABLE: NO			
WEIGHT: 27.4oz		LENGTH: 12.7"	
NEAR FOCUS DISTANCE: 19'			
EYEPIECE	FIELD OF EXIT	EYE	
MAGNIFICATION	VIEW	PUPIL	RELIEF
20-60x (20x)	90°	3.1MM	18MM
20-60x (60x)	45°	1.1MM	18MM

SPACEMASTER EYEPIECES

Choose from a variety of eyepieces for the SPACEMASTER for a good match between you, your scope and what you intend to view. The Bushnell 20-45x zoom eyepiece has long eye relief for comfortable views when wearing eyeglasses. The 22x WA offers an extra wide field of view.

PHOTO ADAPTABLE: 850MM, F/13.3			
WEIGHT: 38.4oz		LENGTH: 11.6"	
NEAR FOCUS DISTANCE: 17-19'			
EYEPIECE	FIELD OF EXIT	EYE	
MAGNIFICATION	VIEW	PUPIL	RELIEF
15x	158°	4.0MM	17.0MM
20x	124°	3.0MM	16.0MM
22x WA	163°	2.7MM	13.0MM
40x	61°	1.5MM	6.0MM
60x	41°	1.0MM	3.0MM
15-45x (15x)	110°	4.0MM	8.0MM
15-45x (45x)	65°	1.3MM	6.0MM

NATUREVIEW SPOTTING SCOPE

This inexpensive spotting scope makes a great starting spotting scope for the hunter. Features a built-in 15-45x variable eyepiece with a 60mm objective lens, multi-coated optics.

Supplied with a soft case and photo adapter (you will need to purchase a T-ring to match your camera).

15-45x60 NATUREVIEW

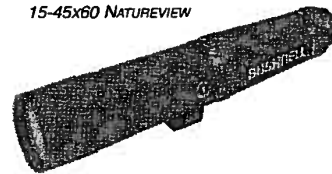


PHOTO ADAPTABLE: YES			
WEIGHT: 29.0oz		LENGTH: 14.0"	
NEAR FOCUS DISTANCE: 42'			
EYEPIECE	FIELD OF EXIT	EYE	
MAGNIFICATION	VIEW	PUPIL	RELIEF
15-45x (15x)	150°	4.0MM	32MM
15-45x (45x)	38°	1.3MM	26MM

EAGLE OPTICS LENS PEN

Keep your optics clean with this pocket-pen sized tool. See page 45.



FUJINON

The Fujinon scopes are ideal for hunting, nature study and telephotography with images of incredibly high resolution, brightness and high contrast. Fujinon's flat-field optics are virtually free of all distortion and astigmatism so images are just as clear and sharp at the outer edges as in the center. All of the eyepieces have precisely machined bayonet mounts for fast, easy and nearly silent lens changes with absolutely secure attachments. All scopes are protected by Fujinon's limited lifetime warranty.

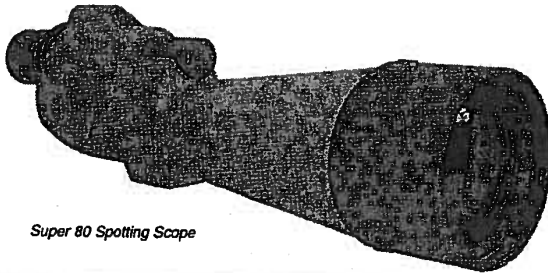
SUPER 80 SPOTTING SCOPES

Fujinon scopes give you all the performance you would expect from top quality field scopes. The ED version uses extra low dispersion glass to provide optimal color accuracy and increased clarity as a result of dramatically reduced chromatic aberration. Even with a super light-gathering 80mm objective lens, these scopes actually weigh less than leading competitive scopes with smaller objective lenses.

The 25x WA/LER eyepiece offers an outstanding combination of magnification with a broad, distortion-free field of view. The 20-60x zoom eyepiece provides a wide angle field of view and is capable of focusing up close for the study of minute details.

SUPER 80 PACKAGE:

Includes 20-60x zoom eyepiece, a straight body, and a carrying case. Choose either standard or ED glass.



Super 80 Spotting Scope

Multi-coatings increase light transmission so that nearly all of the available light passes through these computer-designed optical systems. That translates into brighter images for you to enjoy!

SUPER 60 SPOTTING SCOPES

Use of the same eyepieces as used on Fujinon's top-of-the-line SUPER 80 ED sets this scope apart from most other 60mm spotting scopes. Available with either the straight or 45 degree angle eyepiece configuration.

SUPER 60 PACKAGES:

Includes a 20-60x zoom eyepiece and carrying case with a choice of either the straight or angled body style.



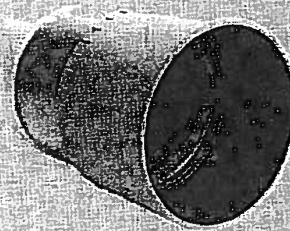
Super 60 Spotting Scope

PHOTO ADAPTABLE: YES				
WEIGHT: 28.0oz		LENGTH: 12.0"		
NEAR FOCUS DISTANCE: 20'				
EYEPIECE	FIELD OF VIEW		EXIT PUPIL	EYE RELIEF
MAGNIFICATION	VIEW			
25x	111'	2.4mm	31mm	
30x	120'	2.0mm	16mm	
50x	54'	1.2mm	14mm	
80x	33'	.75mm	12mm	
20-60x (20x)	99'	3.0mm	20mm	
20-60x (60x)	57'	1.0mm	12mm	

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FUJINON SUPER SCOPE FEATURES

Patented EBC coatings for true colors
100% waterproof
Nitrogen purged
Over-sized Porro prisms for wide-angles
Lightweight alloy body
External aiming sight
Center focus system for easy adjustments
Retractable sun shade



Reduce glare on the lens by extending this retractable sunshade.

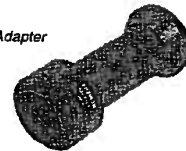
PHOTO ADAPTABLE: 850mm, f/10.6
WEIGHT: 42.3oz LENGTH: 19.3"
NEAR FOCUS DISTANCE: 22'

EYEPIECE	FIELD OF VIEW	EXIT PUPIL	EYE RELIEF	
MAGNIFICATION				
25x	111'	3.2mm	31mm	
30x	120'	2.7mm	16mm	
50x	54'	1.6mm	14mm	
80x	33'	1.0mm	12mm	
20-60x (20x)	99'	4.0mm	20mm	
20-60x (60x)	57'	1.3mm	12mm	

TELEPHOTOGRAPHY:

The optional four-element photo adapter converts either the SUPER 80 or SUPER 60 into a telephoto lens for excellent photographic results. You'll also need a T-ring to match your 35mm SLR camera.

Fujinon Photo Adapter



"We thank you for your kind attention to this exchange. We have been dealing with your company since 1993, and have always been quite pleased with your fine service.

-Actual Customer Quote

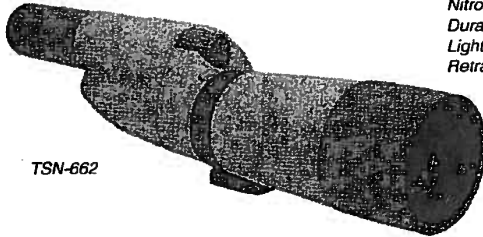
KOWA

TSN-660 SPOTTING SCOPES

With the **NEW** 66mm spotting scopes you get excellent performance in a compact body and 20% more light-gathering than through a 60mm lens. The weather won't keep you from hunting with this Kowa scope. It is completely sealed and nitrogen filled inside for a waterproof and internally fogproof body.

The standard objective lens models in this series come with either angled or straight viewing types. PROMINAR true fluorite crystal glass objective models provide optimum color fidelity and are also available in the angled or straight-through configurations.

*Waterproof
Nitrogen purged
Durable, lightweight Carbon fiber body
Lightweight rubber armoring
Retractable sunshade*



TSN-662

The 66mm diameter objective lens sets a NEW standard for performance in a light weight, compact spotting scope!

PHOTO ADAPTABLE: 800MM, F/12.1

WEIGHT: 35-37oz LENGTH: 12"

NEAR FOCUS DISTANCE: 20'

EYEPIECE MAGNIFICATION	FIELD OF VIEW VIEW	EXIT PUPIL	EYE RELIEF
20x _W	179°	3.3mm	17.0mm
25x _{LE}	95°	2.6mm	31.5mm
30x	121°	2.2mm	17.0mm
20-40x (20x)	109°	3.3mm	18.5mm
20-40x (40x)	80°	1.7mm	14.3mm
20-60x (20x)	89°	3.9mm	22.0mm
20-60x (60x)	52°	1.3mm	11.0mm



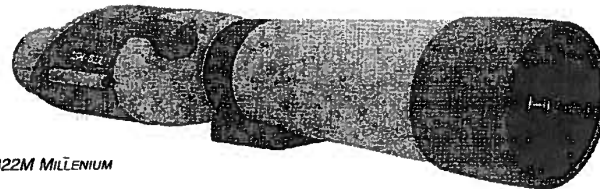
Protect your spotting scope while you use it with this optional case, available for the 820M Millennium models.

TSN-820M MILLENNIUM SERIES

The spotting scopes in this series incorporate an impressive 82mm objective lens with an excellent depth of field. This lens give exceptional brightness, clarity and sharpness with a large increase in light gathering ability over the more conventional-sized 60mm scope. You'll want this larger spotting scope for impressive performance from dawn to dusk, and brighter images at high powers. Each scope in the MILLENNIUM series is equipped with lead-free Eco-GLASS for environmentally friendly glass components.

The chassis design is reliable and provides a sure grip that is comfortable to the touch, even in extreme cold weather. A retractable sunshade prevents stray light and moisture from getting to the objective lens.

The MILLENNIUM models (821M & 822M) utilize a normal objective lens and come in either angled (821M) or straight (822M) viewing designations. The 823M (angled designation) and 824M (straight-through designation) models offer optimum color fidelity with the PROMINAR fluorite objective lens.



822M MILLENNIUM

PHOTO ADAPTABLE: 850MM, F/10.4
WEIGHT: 52.2oz LENGTH: 15.1"
NEAR FOCUS DISTANCE: 20'

EYEPIECE MAGNIFICATION	FIELD OF VIEW VIEW	EXIT PUPIL	EYE RELIEF
27x	74°	3.1mm	31.5mm
32x _W	125°	2.6mm	16.5mm
50x _W	74°	1.6mm	15.0mm
20-60x (20x)	115°	4.1mm	15.0mm
20-60x (60x)	57°	1.4mm	15.5mm

TSN-820 MILLENNIUM

FEATURES

*Fully Multi-Coated optics
Waterproof
Nitrogen purged
Durable body
Lightweight Carbon fiber body
Lightweight rubber armoring*

"It is always a pleasure to work with Eagle Optics. We have been pleased with the Eagle Optics products and first class customer service."

~Sven K. Lindquist

Minnesota Chapter President
Safari Club International

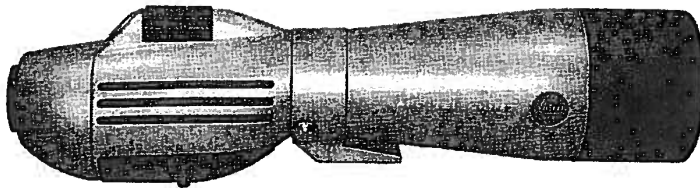


LEICA

The Televid 77mm spotting scope is a technologically advanced instrument that sets the standard for excellence, making it a great choice for near-to-long distance nature study and telephotography. Its superb optical elements are protected against major temperature fluctuations. Multiple anti-reflection coatings on all air-to-glass surfaces result in a brilliant, pin-sharp and high contrast image. The large aperture delivers high detail recognition, even at twilight, and allows exceptional performance at high magnification. The Televid makes an excellent choice for telephotography using the optional photo adapter. Choose between straight and angled eyepiece designs.

THE TELEVID

The **TELEVID** uses a unique advanced focusing system. There are actually two focus knobs conveniently located on the upper center line. One knob is for coarse adjustments, taking five revolutions to go through the focus range. The other knob, for fine focus adjustments, takes 15 revolutions to travel through the focus range. This arrangement makes focusing fast and accurate at both high and low magnifications. Once the focus is set, the scope will remain in focus even after changing eyepieces.

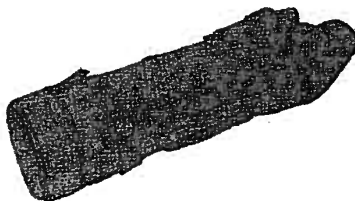


With the Leica APO Televid, you're guaranteed brilliant viewing from daybreak well into twilight!

TELEVID EVER-READY CASE

The design of this case is both elegant and practical. The **CORDURA** nylon case hugs the scope like a second skin, protecting it against the elements.

Thanks to a sophisticated system of flaps, the **TELEVID** scope can remain in the case while in use on a tripod. All flaps and the carrying strap can be detached. Includes a 40mm wide **NEOPRENE** carrying strap with a non-slip surface.



The optional TELEVID EVER-READY CASE is ideal for protecting your scope as you use it.

TELEVID EYEPIECES

All **TELEVID** eyepieces feature extended eye relief for comfortable viewing with eyeglasses. Sliding retractable eyecups allow eyeglass wearers a full field of view. The **32x WA** delivers excellent imaging performance with a wide field that is sharp across the field. All are bayonet-mounted.

The **TELEVID 20-60x ZOOM** is by far the most popular eyepiece in the series. The versatility in the field is a huge advantage to those working with different terrain, lighting and wildlife scenerios from one day to the next.

Choose an eyepiece that works best with the demands of your hobby. The possibilities include a 20xWA, 32xWA, a 40x and the ever-popular 20-60x ZOOM.



TELEVID FEATURES

Waterproof
Nitrogen-purged
Rugged all-metal body
Shockproof to 100g
Coarse and fine focus knobs

PASSPORT PROTECTION

All Leica binoculars and spotting scopes come with a Lifetime Limited Warranty against manufacturing defects. For extended coverage, register your purchase in Leica's exclusive **PASSPORT PROTECTION PLAN**. This lifetime no-fault warranty protects you against any damage to your Leica product, including breakage, water damage or accident (excluding fire or theft). No matter how it happens, Leica will fix or replace your Leica optics - no questions asked.

APO TELEVID

This model uses an intricate two-element Fluorite lens system (**APO**) for enhanced brilliance and exact true-to-life color. The **APO TELEVID** uses this high quality fluorite glass to prevent disturbing color fringes, allowing even the finest structure to show up well in high contrast.

PHOTO ADAPTABLE: 800MM, f/10.4			
WEIGHT: 60.0oz		LENGTH: 16.7"	
NEAR FOCUS DISTANCE: 13'			
EYEPIECE	FIELD OF VIEW	EXIT PUPIL	EYE RELIEF
MAGNIFICATION	VIEW		
20x WA	182°	3.7MM	20MM
32x WA	121°	2.4MM	20MM
40x	66°	1.9MM	14MM
20-60x (20x)	99°	3.9MM	22MM
20-60x (60x)	57°	1.3MM	15MM

"You misled me last Friday by saying it would take 7 to 10 days for UPS to deliver my scope and tripod. I received it today--only THREE business days. Thanks for your prompt attention in getting the scope. It looks great and the looking will be the greatest!"

Thanks again!"

~Actual Customer Quote

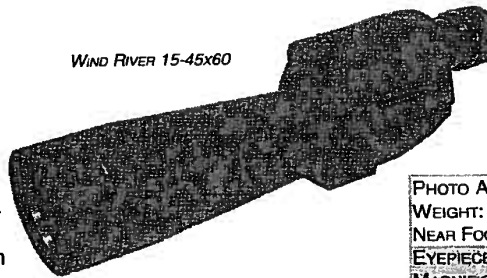
For personalized assistance, call 800-289-1132 or visit us at www.eagleoptics.com.

LEUPOLD

WIND RIVER SPOTTING SCOPE

Leupold's first spotting scope in the Wind River line of wilderness optics is a variable 15-45x60mm model. No matter what distant wildlife you are tracking, you're sure to value this versatile spotting scope. It is powerful, durable and absolutely waterproof. The rubber armor adds shock-absorbing protection against rough use. Roll-down eyecups reveal the full field of view to eyeglass wearers.

Supplied with case. Limited Lifetime warranty.



WIND RIVER 15-45x60

Waterproof
Rugged construction
Lightweight Magnesium body
Rubber armored

PHOTO ADAPTABLE: NO			
WEIGHT: 35.2oz		LENGTH: 12.1"	
NEAR FOCUS DISTANCE: 30'			
EYEPIECE	FIELD OF EXIT	EYE	
MAGNIFICATION	VIEW	PUPIL	RELIEF
15-45x (15x)	181'	4.0mm	14.9mm
15-45x (45x)	69'	1.3mm	10.2mm

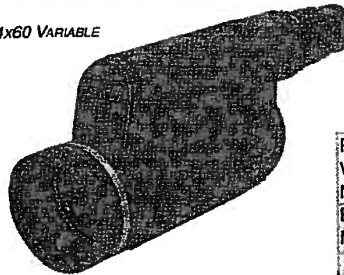
This Wind River spotting scope is rugged, waterproof, and quite sharp optically!

60MM VARIABLE SPOTTING SCOPE

This VARIABLE 12-40x60 spotting scope has been one of our most popular models with hunters, and for good reason. Extended eye relief provides very comfortable viewing whether or not you're wearing eyeglasses. Once focused at 40x, it will remain in focus throughout the power range.

Supplied with case. Lifetime Transferable warranty. Made in USA.

12-24x60 VARIABLE



MULTICOAT 4 Lens coatings
Waterproof
Rugged body
Lightweight Magnesium body

PHOTO ADAPTABLE: NO				
WEIGHT: 36oz		LENGTH: 11.5"		
NEAR FOCUS DISTANCE: 36'				
EYEPIECE	FIELD OF EXIT	EYE		
MAGNIFICATION	VIEW	PUPIL	RELIEF	
12-40x (12x)	17.5'	5.0mm	30.8mm	
12-40x (40x)	5.3'	1.5mm	29.2mm	

This Variable spotting scope is made to perform flawlessly in all conditions.

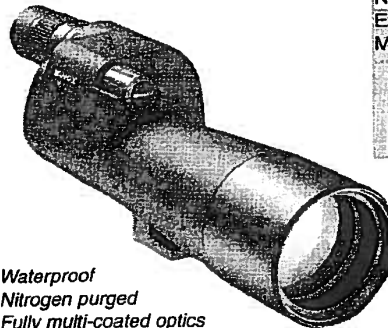
MINOX

Minox binoculars and spotting scopes are developed by and manufactured for Leica and share Leica's world-renowned commitment to customer satisfaction.

MINOX 62MM SPOTTING SCOPE

Minox is proud to announce the addition of a spotting scope to its sports optics line. This new scope will provide nature observers with the ability to draw in distant objects so close you'll feel as though you can touch them. Its compact precision designed optics is consistent with the quality and reputation of Minox products. The multi-coated optics will deliver extremely bright and sharp images across the full field of view.

Supplied with a black Cordura view-through carry case. Limited lifetime warranty.



Waterproof
Nitrogen purged
Fully multi-coated optics
Sturdy aluminum body
Lightweight and portable

PHOTO ADAPTABLE: NO				
WEIGHT: 32.0oz		LENGTH: 12.8"		
NEAR FOCUS DISTANCE: 16.4'				
EYEPIECE	FIELD OF EXIT	EYE		
MAGNIFICATION	VIEW	PUPIL	RELIEF	
22x	125'	4.0mm	18.4mm	
40x	65'	1.3mm	19.0mm	
20-45x (20x)	89'	3.1mm	20.0mm	
20-45x (45x)	57'	1.4mm	20.0mm	

Choose the scope features that best suit your needs:

Straight or angled body
Standard or ED glass

NIKON SPORTS OPTICS

NIKON 60MM FIELDSCOPE III

When you look through a **FIELDSCOPE III**, you'll see impressive image resolution, colors and contrast. The rugged waterproof and lightweight magnesium alloy body comes in an attractive green metal finish. You'll find the helical focus works smoothly and quickly, even if you must wear gloves.

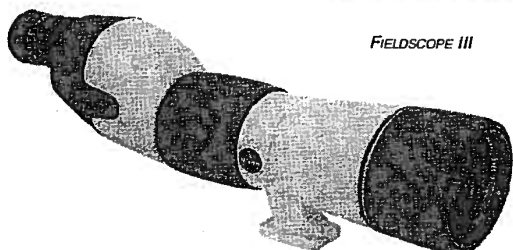
Choose between angled or straight-through configurations, and standard or Extra-low Dispersion glass (ED) objective lenses. The **ED FIELDSCOPE** will equal or outperform models with larger apertures, making it an excellent choice for the hunter in the field. It is also capable of surprising performance at 60x, which is unusual for a 60mm spotting scope. Supplied with a water-resistant, padded Cordura nylon case.

TELEPHOTOGRAPHY:

An optional high quality Nikon photo adapter is a four element optical group.

Note: compatible only with Nikon cameras.

PHOTO ADAPTABLE: 800MM, f/13.3				
(NIKON CAMERAS ONLY)				
WEIGHT: 38.0oz		LENGTH: 10.9"		
NEAR FOCUS DISTANCE: 12' AT 20X				
EYEPIECE	FIELD OF VIEW	EXIT PUPIL	EYE RELIEF	
MAGNIFICATION	VIEW			
24x WA	126°	2.5MM	16.0MM	
30x WA	115°	2.0MM	10.0MM	
40x WA	105°	1.5MM	17.0MM	
60x WA	73°	1.0MM	17.0MM	
20-45x (20x)	105°	3.0MM	15.0MM	
20-45x (45x)	55°	1.3MM	13.0MM	
20-60x (20x)	115°	3.0MM	13.4MM	
20-60x (60x)	56°	1.0MM	12.5MM	



FIELDSCOPE III

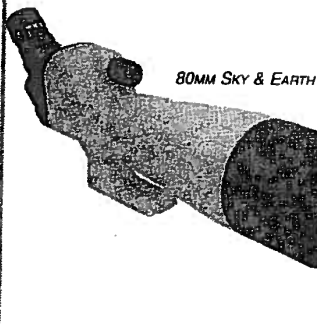
Nikon's 60MM FIELDSCOPE III brings you the option of standard or Extra-low Dispersion glass.

SKY & EARTH SPOTTING SCOPES

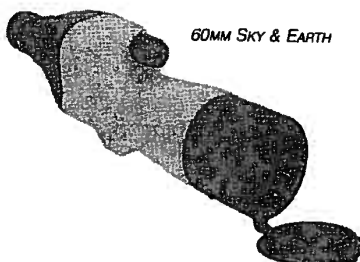
Hunters, serious wildlife observers, and other outdoor enthusiasts will appreciate the quality optics of the **SKY & EARTH** series and its reasonable price. Both objective and eyepiece lenses have multi-layered, anti-reflective coatings for optimum brightness. The knob focus control, located on the front of the scope body, ensures smooth movement. Available in either angled or straight-through eyepiece configuration.

FEATURES:

Multi-layered anti-reflective lens coatings
Integrated O-ring seals for water-resistance



80MM SKY & EARTH



60MM SKY & EARTH

Choose between Nikon's 60mm and 80mm Sky & Earth models.

NIKON SPOTTER XL OUTFIT

If you're looking for a compact and durable roof prism scope, consider this 60mm model. It is reliable in the most severe weather and temperature fluctuations. Fully multi-coated optics and phase corrected prisms dramatically enhance the light transmission so you enjoy high contrast images with fine color rendition. An integrated variable eyepiece zooms from 16x to 47x.

Supplied with a snug scope case, a compact tripod and a carry case that holds both the **SPOTTER XL** and tripod.

PHOTO ADAPTABLE: NO				
WEIGHT: 26.5oz		LENGTH: 12.5"		
NEAR FOCUS DISTANCE: 50'				
EYEPIECE	FIELD OF VIEW	EXIT PUPIL	EYE RELIEF	
MAGNIFICATION	VIEW	PUPIL	RELIEF	
16-47x (16x)	105°	3.8MM	13.5MM	
16-47x (47x)	58°	1.3MM	12.0MM	



SPOTTER XL OUTFIT

SKY & EARTH 60MM

This scope is available with a variable 15-45x eyepiece. It is also available as the **SKY & EARTH SPOTTING SCOPE OUTFIT PACKAGE**, including the straight body, 15-45x zoom, scope case, and a Slik tripod.

PHOTO ADAPTABLE: NO			
WEIGHT: 35.5oz		LENGTH: 12.5"	
NEAR FOCUS DISTANCE: 16.5'			
EYEPIECE	FIELD OF VIEW	EXIT PUPIL	EYE RELIEF
MAGNIFICATION	VIEW	2X	RELIEF
15-45 (15x)	133°	4.0mm	12.5mm

SKY & EARTH 80MM

This larger scope is available with a variable 20-60x zoom. The body comes in both the 45 degree angled and the straight-through eyepiece configurations.

PHOTO ADAPTABLE: NO			
WEIGHT: 52.2oz		LENGTH: 16"	
NEAR FOCUS DISTANCE: 26'			
EYEPIECE	FIELD OF VIEW	EXIT PUPIL	EYE RELIEF
MAGNIFICATION	VIEW		
20-60x (20x)	99°	4.0mm	12.5mm

For personalized assistance, call 800-289-1132 or visit us at www.eagleoptics.com.

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SW01580

SWAROVSKI OPTIK

80MM SPOTTING SCOPES

The 80mm spotting scope sets a high standard in wildlife observation and is considered by many to be the ultimate in its class. The optics deliver brilliant, high-resolution images with edge-to-edge sharpness. The precision cast body is hermetically sealed to resist damage from the harsh effects of dust, humidity, rain, water, and snow. Extra hard coatings on the exterior surface of the outer lenses also help resist all environmental influences.

FEATURES:

Waterproof body
Nitrogen purged
Rugged aluminum body
Multi-layered lens coatings
Internal focus system

TELEPHOTOGRAPHY:

The 800mm is more versatile than the 1100mm, which offers extra magnification at the expense of resolution.

ASTRONOMICAL EYEPIECE ADAPTER

This adapter allows any you to use any standard 1.25" astronomical eyepiece in a Swarovski spotting scope.

PHOTO ADAPTABLE: 800MM, f/10
1100MM, f/14
WEIGHT: 52.0oz LENGTH: 16"
NEAR FOCUS DISTANCE: 20'

EYEPIECE MAGNIFICATION	FIELD OF VIEW	EXIT PUPIL	EYE RELIEF
30x WA	120°	2.7MM	16MM
20-60x (20x)	99°	4.0MM	20MM
20-60x (60x)	51°	1.3MM	16MM



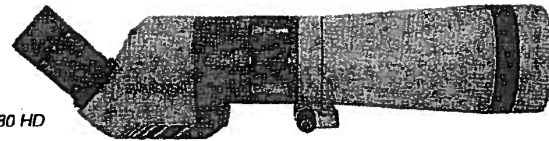
The Swarovski padded protective case offers excellent protection against damage to your scope.

CTC 30x75 EXTENDIBLE SCOPE

This "Collapsible Telescope Classic" scope was designed in cooperation with international experts for tracking animals on the move. The pull-out element makes this a very slender and rugged scope. Precision optics and Swarovski's special coatings provide you with razor-sharp images of true color reproduction.



ST-80 HD



AT-80 HD

Swarovski provides excellence with your choice of straight-through or angled viewing with these 80mm spotting scopes.

STANDARD MODELS:

The **ST-80** has a straight-through eyepiece and the **AT-80** has a 45 degree angle configuration. Both models use interchangeable eyepieces of high quality that bayonet mount for quick exchanges. A fast, smoothly rotating helical focus allows you to focus from 21 feet to infinity within a fraction of a second.

HIGH DEFINITION MODELS:

To provide the optimum in color fidelity, sharpness of focus and image quality, the **AT-80HD** and **ST-80HD** utilize a high quality glass and labor-intensive process to correct the objective lens for chromatic aberration. These high definition (HD) models use the same eyepieces and photo adapters as the **AT-80** and **ST-80** scopes.

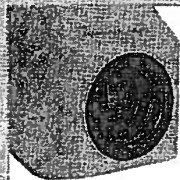
Swarovski Special Features



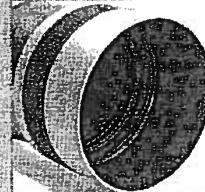
The scope is rotatable on the tripod, clicking into place every 45 degrees, for comfortable views from any desired position.



Bayonet connector for quick eyepiece exchange.



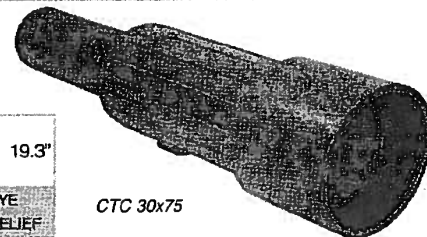
Cover glass sealed against dust, dirt, and water (even when eyepiece is not mounted)



Extendable sun shield keeps out disturbing lateral light and protects the objective lens from precipitation.

Due to its draw-tube construction, the **CTC** is a water-resistant scope, not submersible. Designed for back country use.

PHOTO ADAPTABLE: NO			
WEIGHT: 42.3oz		LENGTH: 19.3"	
NEAR FOCUS DISTANCE: 33'			
EYEPIECE MAGNIFICATION	FIELD OF VIEW	EXIT PUPIL	EYE RELIEF
30x	123°	2.5MM	15.6MM



CTC 30x75

SWAROVSKI OPTIK

SWAROVSKI 65MM SPOTTING SCOPES

Swarovski's new 65mm scopes make a great choice for the hunter who needs a superior quality, compact spotting scope. Short and lightweight, yet offering exceptional optical performance, the ATS/STS is ideal for the mountain or backpack type hunter. Fully waterproof, these premium scopes are small, light, and easy to handle -- so you can keep up with the game you're hunting!

The eyepieces bayonet mount for rapid, easy changes. The twist-in feature of these long eye relief eyepieces is sure to please the hunter who wears eyeglasses.

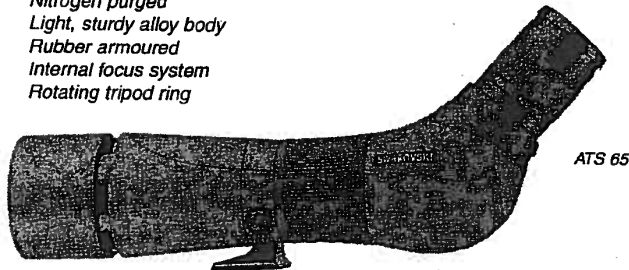
The standard 65 models (STS 65 & ATS 65) utilize a normal objective lens and come in either angled (ATS 65) or straight (STS 65) viewing designations. The **ATS 65 HD** (angled designation) and **STS 65 HD** (straight-through designation) models offer optimum color fidelity with the High Definition glass used in their objective lenses.

Covered by Swarovski's limited lifetime warranty.

ASTRONOMICAL EYEPIECE ADAPTER

This adapter allows any you to use any standard 1.25" astronomical eyepiece in a Swarovski spotting scope.

Waterproof body
Nitrogen purged
Light, sturdy alloy body
Rubber armoured
Internal focus system
Rotating tripod ring



ATS 65

The 65mm scopes provide a compact solution for your needs -- without compromising on quality.

Tips

OPTICS
FOR
HUNTERS



USING YOUR EYECUPS THE RIGHT WAY

When using your optics, be sure you understand the correct use of the eyecups. All bins and spotting scopes will allow you to adjust them. There

may be a rubber eyecup that can be folded down or a newer type that either twists or slides up and down.

If you're an eyeglass wearer, you always want to be sure you have the eyecup rolled back or in the down position. This will allow you to see the widest possible field of view. Conversely, if you don't wear glasses, you'll enjoy your optics more if you leave these eyecups in the up (fully extended) position. This will allow the eyecups to just comfortably touch your face and help block out lateral light.

SWAROVSKI SCOPE

FEATURES

Twist-in eyecup is also removable for cleaning.



Rubber eyepiece guard -- always there when you need it!

A removable peepsight helps you find your subject quickly.



Rotating tripod ring on the angled model allows for viewing through car windows.



An integrated sunshield moves quietly, locking in place when fully extended.



PHOTO ADAPTABLE: 800
WEIGHT: 38.8oz. LENGTH 12.8"
NEAR FOCUS DISTANCE: 10'

EYEPIECE MAGNIFICATION	FIELD OF VIEW at 1000 YDS	EXIT PUPIL	EYE RELIEF
20x	180'	3.3MM	17MM
30x	126'	2.2MM	20MM
20-60x (20x)	108'	3.3MM	17MM
20-60x (60x)	60'	1.1MM	17MM

For personalized assistance, call 800-289-1132 or visit us at www.eagleoptics.com.

ZEISS

Zeiss has been a pioneer in optics for 154 years and retains worldwide respect throughout the industry. Zeiss aims to provide accurate color, stunning contrast, crisp imagery, and a lifetime of profoundly satisfying performance. Zeiss optics have characteristics which should not be taken for granted: the use of carefully selected materials, outstanding optics, precision engineering, life-long reliability and a limited lifetime transferable warranty.

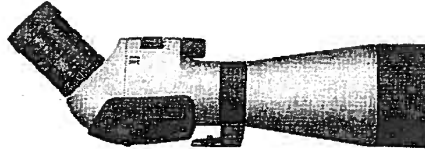
DIASCOPE SERIES

Ideal for the hunter seeking a premium quality field-ready spotting scope. With great optics and extremely rugged construction, the ZEISS DIASCOPES will provide a lifetime of long distance game spotting.

The optics are designed on the basis of the Carl Zeiss Advanced Optics System (AOS). Using glass material containing fluorine ions, this *new* spotting scope provides natural color rendition down to even the finest nuances with superb detail recognition (without fringing!).

The Carl Zeiss T* multi-layer coating on all glass-to-air surfaces delivers maximum light transmission and natural color.

85MM DIASCOPES



65MM DIASCOPES



FEATURES OF ALL DIASCOPES
 Apochromatic optical system
 Waterproof
 Nitrogen purged
 Fully multi-coated
 Rotatable tripod bracket
 Sunshade with peepsight

THE 65MM AND 85MM DIASCOPES are available in both angled and straight eyeiece versions.

65MM DIASCOPE SCOPES

65MM PHOTO ADAPTABLE: COMING SOON!

WEIGHT: 38.8oz. LENGTH 11.8"

NEAR FOCUS DISTANCE: 13.1'

EYEPIECE MAGNIFICATION	FIELD OF VIEW °	EXIT PUPIL mm	EYE RELIEF mm
23x	166°	2.8mm	18.5mm
30x	120°	2.1mm	18.0mm
15-45x (15x)	168°	4.3mm	16.0mm
15-45x (45x)	78°	1.4mm	16.0mm

85MM DIASCOPE SCOPES

85MM PHOTO ADAPTABLE: COMING SOON!

WEIGHT: 51.1oz. LENGTH 13.6"

NEAR FOCUS DISTANCE: 16.3'

EYEPIECE MAGNIFICATION	FIELD OF VIEW °	EXIT PUPIL mm	EYE RELIEF mm
30x	120°	2.8mm	18.5mm
40x	90°	2.1mm	18.0mm
20-60x (20x)	129°	4.3mm	16.0mm
20-60x (60x)	60°	1.4mm	16.0mm

"This is not my first good experience with Eagle Optics. I have always had excellent service and I would recommend Eagle Optics to anyone."

-Actual Customer Quote

EAGLE OPTICS LENS PEN

Keep your optics clean with this pocket-pen sized tool. See page 45.



Tips

OPTICS
FOR
HUNTERS



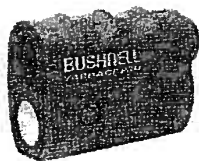
Use common sense in the care and maintenance of your hunting optics. I will always attempt to blow off any visible dust or dirt before brushing or rubbing anything on the glass. Next I use a LENS PEN or lens cleaning tissue to gently wipe off any remaining marks or spots. Remove stubborn things like dried water spots by fogging the lens lightly with your breath. If your waterproof optics are badly soiled, you can even clean them under lightly running water (to minimize any possible damage). Keep eyecups and focus mechanisms free of dirt and oil. An occasional wipe with a vinyl or rubber preservative like ARMORALL will extend the life of rubber eyecups. Check your neckstrap and its attachments for wear or slippage, too. You don't want your bino to come flying off and hit the ground!

Note: Don't use your shirt tail or pocket tissue to clean them. These can contain material which will scratch the coatings on the lenses.

RANGEFINDERS

BUSHNELL YARDAGE PRO RANGEFINDERS

Bushnell Rangefinders have changed the way hunters measure distance. Using the most advanced laser technology available, Yardage Pros instantaneously measure distances with incredible accuracy. Dependable in even the harshest conditions, all are water and shock resistant and feature a low battery indicator. Come with a one-year warranty.



Yardage Pro Scout
1 1/2 x 4 x 2 3/4"

	POWER	WEIGHT	ACCURACY	RANGE	PERFORMANCE
500	6x	13.5oz	+/- 1 YARD	500 YARDS	
1000	6x	9.0oz	+/- 1 YARD	1000 YARDS	
SCOUT	6x	9.0oz	+/- 1 YARD	570 YARDS	



Yardage Pro 500
2 1/4 x 5 x 4 3/4"



Yardage Pro 1000
2 1/4 x 5 x 4 3/4"

YARDAGE Pro rangefinders are great tools for hunters. The Scout measures from 10 yards out, while the YARDAGE Pro 500 and 1000 begin to measure from about 21 yards out.

YARDAGE PRO RANGEFINDER TARGETING MODES

SCAN
Provides continuous distance measurements. Multiple targets in the field of view are scanned.

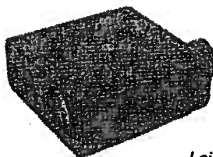
RAIN
Permits distance measurement in bad weather (snow and rain).

ZIP
Enables distance measurement through foreground clutter such as brush or branches.

REFLECTOR
Maximum distance to special reflectors is enhanced.

LEICA LRF 800 LASER RANGEFINDER

The Leica LRF 800 is a compact, monocular design laser rangefinder with 7x magnification. It can measure from 10 yards to nearly 900 yards. It uses an LED display that adjusts itself to ambient brightness and multiple modes with an integrated diopter compensation. It's also protected against water spray. Choose between meter or yard readings.



Leica LRF 800
4 1/8 x 4 3/4 x 1 9/16"

	POWER	WEIGHT	ACCURACY	RANGE	PERFORMANCE
LRF 800	7x	1.1 oz	+/- 2 YARD	875 YARDS	

"I can only say that Eagle Optics must run an exceptionally efficient operation to be able to turn my order around so quickly. Thank you also for the very friendly and knowledgeable service I received each time I called."

~Actual Customer Quote

Tips

OPTICS
FOR
HUNTERS



PHOTOGRAPHING ANIMALS WITH YOUR SPOTTING SCOPE

A nice option available with many of the better spotting scopes is the ability to attach a 35mm camera body to it and take photographs. This will require two optional accessories: a photo adapter and a T-ring. The photo adapter is specific to the spotting scope (e.g., a Swarovski spotting scope will need a Swarovski photo adapter) and replaces the eyepiece. It usually yields a magnification of about 16x (you will not be able to use your higher powered zoom eyepieces to take pictures). The T-ring will be specific to the camera body

you wish to use (e.g., a Nikon camera uses a Nikon T-ring).

Simply remove the eyepiece, attaching the photo adapter in its place, and screw the T-ring onto the photo adapter. Your camera body (with camera lens removed!) will then either screw or bayonet onto the T-ring. Your spotting scope body has become the camera lens that you focus as you would the normal camera lens focus. At this point, you're set to take pictures! Note that a couple of scopes only work with cameras of the same make (e.g. Nikon Fieldscopes). If you're interested in photographing with your spotting scope, give us a call, and we'll be happy to answer any questions.

For personalized assistance, call 800-269-1132 or visit us at www.eagleoptics.com.

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SW01584

TRIPODS

MANFROTTO/BOGEN TRIPODS

These Italian made tripods are excellent supports for the discriminating nature observer. All are made of hard-finish, high strength aluminum alloys that resist wear and remain rigid and stable with heavy use and abuse. One year warranty.

WILDERNESS TRIPOD KIT #3178WN

This redesigned Wilderness tripod kit is tailored for fast equipment changes with little disturbance. Both the tripod legs and head are a matte black finish providing almost no glare.

The Wilderness tripod uses the new 3021BN legs. Set the legs at four different angles with the new rapid action lever leg locks. The center column now features an innovative three-faced design for more stable panning motion and a built-in low angle adapter for ground level shots/seeing.

The Wilderness tripod includes the classic 3130 head, a micro-fluid pan head with pan and tilt locks, featuring a quick release plate for fast equipment changes. The tripod kit includes padded leg wraps, wide carry strap, and retractable spiked feet.

Maximum height is 75 inches
Closed (folded) length is 28.5 inches
Maximum load capacity is 13.2 pounds
Weighs 7.7 pounds

Manfrotto
Wilderness Tripod
Kit [#3178WN]



TRACKER TRIPOD KIT #3175GN

The Tracker tripod is designed for wildlife and nature spotting. It is more lightweight than the Wilderness tripod, using the 3205 legs. Key features of the tripod include a new center column with innovative three-faced design to eliminate stray rotation.

A built-in low angle adapter allows for ground level shots and viewing. Legs (olive green top section) have three leg-angle settings, olive green head and top leg section, rapid action lever locks, rubber feet with retractable steel spikes, and foam leg wraps for ease in carrying. The kit includes the standard 3130 head (olive green) with a quick release plate. Supplied with a green tripod carry strap.

Maximum height is 62.5 inches
Closed (folded) length is 26.5 inches
Maximum load capacity is 11 pounds
Weighs 6.3 pounds

Manfrotto Tracker
Tripod Kit
[#3175GN]



BOGEN JUNIOR TRIPOD #3405

This is the lightest and most compact of all our full-size tripods. Four section aluminum legs feature quick acting twist leg lock adjustment. Shoulder assembly and three-way pan head are aluminum constructed and features a quick release plate for easy equipment changes.

Maximum height is 62.5 inches
Closed (folded) length is 22 inches
Maximum load capacity is 11 pounds
Weighs 4.1 pounds

Manfrotto Bogen
Junior Tripod

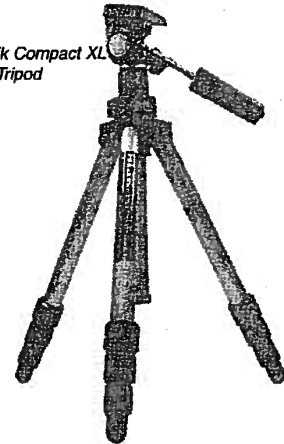


SLIK COMPACT XL

This is the perfect tripod for the hunter who backpacks, working well with the smaller 60mm scopes. A reversible, double extension center column and four leg extensions let it rise to almost triple its folded length. Twist collar leg locks are easy to grip for quick adjustments. Separate pan and tilt controls follow the action.

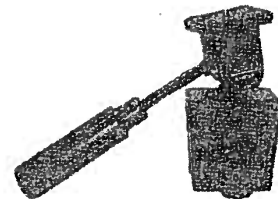
Maximum height is 45.0 inches
Closed (folded) length is 14.5 inches
Maximum load capacity is 2.5 pounds
Weighs 1.5 pounds

Slik Compact XL
Tripod



HAKUBA CAR WINDOW MOUNT

Use your truck as a blind! This easy-to-use car window mount will clamp securely on your window (rubber pads prevent window glass from being scratched) and hold any of our spotting scopes. Handle allows movements in both vertical and horizontal axes.



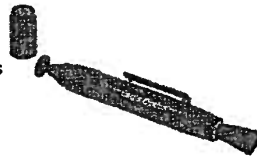
ACCESSORIES

EAGLE OPTICS LENS PEN

Use this small and lightweight tool to protect and maintain the anti-reflective coatings on the exterior lens elements of your optical equipment. The pocket-pen sized *Lens Pen* houses two cleaning tools for total lens care.

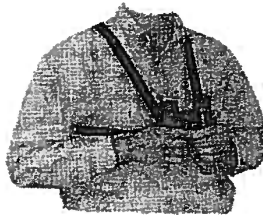
Use the high quality, retractable natural hair brush to remove solid particles from the lens surface. Then, gently clean the lens with the rounded chamois leather pad (impregnated with a specially formulated non-liquid cleaning compound).

Laboratory testing has proven that the *Lens Pen* outperforms other products when it comes to removing oily fingerprints, the most common lens surface contaminant. Almost all foreign contaminants can be removed using the pad, so lenses can be cleaned effectively time after time.



EAGLE OPTICS BINO-SYSTEM HARNESS

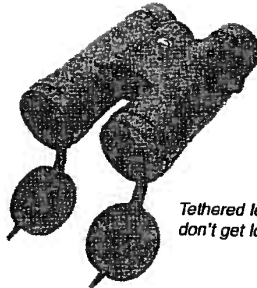
Use your shoulders instead of your neck to support the weight of your binoculars. Elastic straps allow binoculars to slide up and flex out when you use them. This keeps your binocular secure while on the move, yet readily available. This harness is fully adjustable and works well for binoculars of any size, cameras or rangefinders.



EAGLE OPTICS TETHERED

OBJECTIVE LENS CAPS

Inexpensive alternatives to the plastic caps sent by many manufacturers (which are the first things to get lost when you're in the field) are these tethered rubber objective lens caps. These attached caps are easily removed from the binocular body, yet they hang out of the way while viewing! They may be purchased for most full-size binoculars.



Tethered lens caps don't get lost!

BUSHAWK SHOULDER MOUNT

Designed with you in mind....If you're tired of lugging around bulky tripods while using your spotting scope, this is for you! Right or left handed, right or left "eyed", the *BUSHAWK* quickly adjusts to your needs. Constructed of high-impact space age plastic, the *BUSHAWK* weighs only 12 ounces and is tough enough to deliver a lifetime of service.



FUJINON TRIPOD ADAPTER

Consider mounting your binocular on a tripod for more comfortable viewing over extended periods of time. You'll also enjoy shake-free views of the stars while using binoculars of 10x or larger.



CARDOZA SURE-LOCK FOR ROOF PRISM

This versatile accessory allows you to mount most binoculars to any tripod or monopod. By holding your binoculars perfectly still, you will be able to see definition as never before.



"Eagle Optics went out of their way to get me my order when I needed it. They are great! I spoke with a young woman that returned my call! She was great and very helpful. I'll certainly shop with them again in the future."

~Actual Customer Quote



EAGLE OPTICS COMFORT STRAP

This Neoprene strap will make your binocular feel 50% lighter! It is extremely comfortable, fully adjustable, easy to attach, strong, durable and washable. The tapered ends will slip through rainguards at the point of their attachments. An excellent choice for any binocular.



SWAROVSKI FLOATATION STRAP

Make your waterproof binoculars unsinkable, too. This strap is orange so you can spot your optics among the waves.



For personalized assistance, call 800-289-1132 or visit us at www.eagleoptics.com

EAGLE OPTICS ORDER FORM



ORDERING FROM EAGLE OPTICS

We invite you to call Eagle Optics directly with any questions related to ordering products or to place your order. If you prefer to mail us your order, please complete the information on this form. Another convenient way to order is through our secure site at www.eagleoptics.com.

No matter how you place your order, we thank you for your business and look forward to serving you in the future.
The Staff at Eagle Optics

EAGLE OPTICS ORDER

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ORDERED BY

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DATE

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CITY

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STATE

ZIP

ITEM DESCRIPTION	CATALOG PAGE	QUANTITY	PRICE EACH	PRICE TOTAL

DID YOU INCLUDE ALL COLORS AND SIZES FOR THIS ORDER?

☐ CHECK ☐ MONEY ORDER \$ (ENCLOSED)

[ALLOW 2 WEEKS FOR CHECK TO CLEAR BEFORE SHIPPING]

☐ DISCOVER

CARD NUMBER

☐ MASTERCARD

CARD EXPIRATION DATE

☐ VISA

CARD HOLDER'S SIGNATURE

SUBTOTAL

TAX (WI 5%)

SHIPPING

TOTAL

? HOW MUCH FOR SHIPPING?

When you purchase more than one product, you will save on shipping by determining a combination rate for your order. Take the highest shipping value and add \$2.00 for each additional item.

BINOCULARS	SPOTTING SCOPES
\$11.00	\$13.00
ACCESSORIES	TRIPODS
\$6.00	\$15.00

All UPS shipments require a street address. P.O. Box is insufficient.

SEND OUR EAGLE OPTICS CATALOG TO A FRIEND

NAME

ADDRESS

CITY

STATE

ZIP

? DURING WHAT HOURS CAN I REACH EAGLE OPTICS BY TELEPHONE?

You may reach us during the following hours:

CENTRAL TIME ZONE

MONDAY-FRIDAY

8:00 AM TO 6:00 PM

SATURDAY

9:00 AM TO 5:00 PM

SUNDAY

11:00 AM TO 4:00 PM

1-800-289-1132

Eagle Optics
2120 W. Greenview Drive, # 4
Middleton, WI 53562

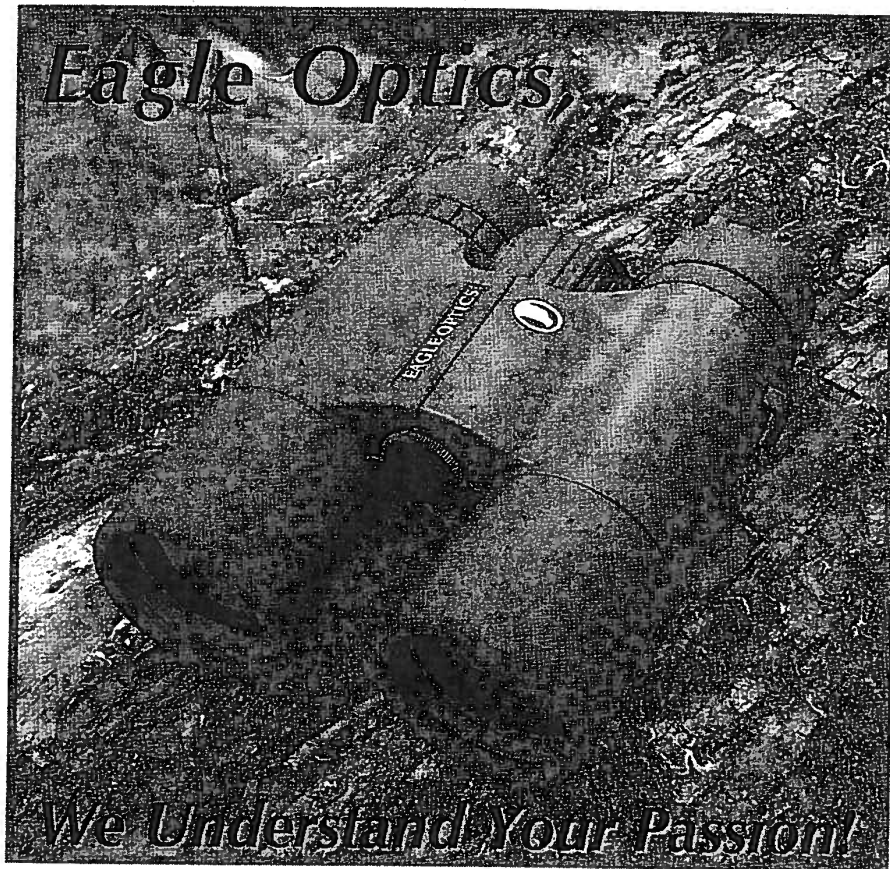
? HOW DO I GET TO EAGLE OPTICS?

From Madison, take University Avenue west into Middleton. Continue west as the road becomes Highway 14. As the highway narrows from a divided 4-lane into a 2-lane road, turn right onto Pinehurst Dr. Go one block and turn left on Greenview Dr. One block straight ahead, you will see building 2120. We are in Suite #4.

We look forward to your visit!

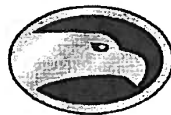
? IS MY PURCHASE RETURNABLE?

Yes, all products bought through Eagle Optics can be returned within 30 days of the date of purchase. **Returns must be in new condition with all original boxing and paperwork.** You may exchange for another product, or be reimbursed the purchase price (less shipping costs). Our goal is to provide you with superior customer service and aid you in finding the right products for your specific needs.



**THE EAGLE OPTICS
RANGER PLATINUM CLASS™**

6x32•8x32•10x32•8x42•10x42•10x50•12x50



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YOUR SOURCE FOR FINE OPTICS

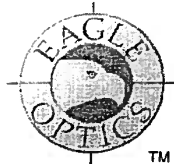
**BAUSCH
& LOMB**

bogen

BRUNTON

Bushnell

Canon



FUJINON

KAHLES

Kowa

Leica

LEUPOLD

MINOLTA

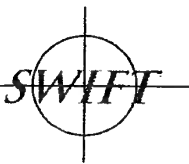
MINOX

Nikon.

PENTAX

STEINER
GERMANY


SWAROVSKI
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SWIFT

ZEISS

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